

Document of
The World Bank

Report No: ICR00003154

IMPLEMENTATION COMPLETION AND RESULTS REPORT
(IBRD-48690 TF-91769)

ON A

LOAN

IN THE AMOUNT OF US\$140 MILLION

AND

SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY (SIDA) TRUST

FUND

IN THE AMOUNT OF US\$4.2 MILLION

TO

UKRAINE

FOR AN

URBAN INFRASTRUCTURE PROJECT

December 19, 2015

Water Global Practice
Belarus, Moldova and Ukraine Country Unit
Europe and Central Asia Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective September 10, 2015)

Currency Unit = Ukraine Hryvnia (UAH)

1.00 = US\$0.047

US\$1.00 = 21.65

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

BETF	Bank Executed Trust Fund
CAS	Country Assistance Strategy
CPMU	Central Project Management Unit
EA	Environmental Assessment
EMP	Environmental Management Plan
FM	Financial Management
FSU	Former Soviet Union
ISR	Implementation Status Results Report
IRR	Internal Rate of Return
M&E	Monitoring and Evaluation
MHCS	Ministry of Housing and Communal Services
MRDCHCS	Ministry of Regional Development, Construction, Housing, and Communal Services
MTR	Midterm Review
NPV	Net Present Value
PDO	Project Development Objective
PIU	Project Implementation Unit
RETF	Recipient Executed Trust Fund
RM	Results Matrix
RPMU	Regional Project Management Units
SIDA	Swedish International Development Authority
TA	Technical Assistance
TF	Trust Fund
TOR	Terms of Reference
UIP	Urban Infrastructure Project

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Project Team Leader: Tamara Sulukhia
ICR Team Leader: Kremena Ionkova

**UKRAINE
URBAN INFRASTRUCTURE PROJECT
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MAP

A. Basic Information			
Country:	Ukraine	Project Name:	Urban Infrastructure Project (UIP)
Project ID:	P095337	L/C/TF Number(s):	IBRD-48690,TF-91769
ICR Date:	12/19/2015	ICR Type:	Core ICR
Lending Instrument:	Specific Investment Loan	Borrower:	UKRAINE
Original Total Commitment:	US\$140.00 million	Disbursed Amount:	US\$137.09 million
Revised Amount:	US\$137.09 million		
Environmental Category: B			
Implementing Agencies: Ministry of Regional Development, Construction, Housing and Communal Services; Agency for Development Programs of Odessa, Chernihivvodokanal Utility and Ivano-Frankivskvodoecotechprom Water Utility			
Cofinanciers and Other External Partners: US\$4.2 million from the Swedish International Development Cooperation Agency (SIDA)			

B. Key Dates				
Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	04/12/2005	Effectiveness:	11/10/2008	11/10/2008
Appraisal:	02/28/2007	Restructuring(s):	–	07/13/2012 10/11/2013 09/24/2015
Approval:	08/28/2007	Midterm Review:	06/01/2011	05/31/2011
		Closing:	12/31/2012	06/30/2015

C. Ratings Summary	
C.1 Performance Rating by ICR	
Outcomes:	Moderately Satisfactory
Risk to Development Outcome:	High
Bank Performance:	Moderately Satisfactory
Borrower Performance:	Moderately Satisfactory

C.2 Detailed Ratings of Bank and Borrower Performance (by ICR)			
Bank	Ratings	Borrower	Ratings
Quality at Entry:	Moderately Unsatisfactory	Government:	Moderately Unsatisfactory

Quality of Supervision:	Moderately Satisfactory	Implementing Agency/Agencies:	Moderately Satisfactory
Overall Bank Performance:	Moderately Satisfactory	Overall Borrower Performance:	Moderately Satisfactory

C.3 Quality at Entry and Implementation Performance Indicators

Implementation Performance	Indicators	QAG Assessments (if any)	Rating
Potential problem project at any time (Yes/No):	No	Quality at Entry (QEA):	None
Problem project at any time (Yes/No):	Yes	Quality of Supervision (QSA):	None
DO rating before closing/inactive status:	Moderately Satisfactory	n.a.	n.a.

D. Sector and Theme Codes

	Original	Actual
Sector Code (as % of total Bank financing)		
Energy efficiency in Heat and Power	20	20
Solid waste management	10	–
Wastewater Collection and Transportation	15	20
Wastewater Treatment and Disposal	15	20
Water supply	40	40

Theme Code (as % of total Bank financing)		
City-wide Infrastructure and Service Delivery	75	75
Climate change	25	25

E. Bank Staff

Positions	At ICR	At Approval
Vice President:	Cyril E Muller	Shigeo Katsu
Country Director:	Qimiao Fan	Paul G. Bermingham
Practice Manager:	Dina Umali Deininger	Peter D. Thomson
Project Team Leader:	Tamar Sulukhia	Seema Manghee
ICR Team Leader:	Kremena Ionkova	

F. Results Framework Analysis

Project Development Objectives (from Project Appraisal Document)

The project's objective is to assist participating utilities in moving towards higher quality and reliability of services and reducing the costs of service through a series of institutional improvements and selective investments in rehabilitation and replacement of deteriorated water supply, wastewater, and solid waste systems.

Revised Project Development Objectives (as approved by original approving authority)

The objective of the project is to improve the quality of water and wastewater services and to increase energy efficiency of selected water and sanitation utilities.

(a) PDO Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1:	Improved bacteriological quality of treated drinking water in Ivano-Frankivsk (percentage)			
Value (Quantitative or Qualitative)	Compliance with international water standards: Odessa: 50% Chernihiv: 60% Ivano-Frankivsk: 50%	Odessa: 80% Chernihiv: 75% Ivano-Frankivsk: 65%	Percent of non-complying treated water samples in Ivano-Frankivsk: 5%	Percent of non-complying treated water samples Ivano-Frankivsk: 0%
Date achieved	08/28/2007	12/31/2012	07/13/2012	05/18/2015
Comments (incl. % achievement)	<p>Target overachieved.</p> <p>Original indicator at appraisal was titled: "Improved quality of water supply and other services (Odessa, Chernihiv, Ivano-Frankivsk)" and was to be measured through compliance with international standards.</p> <p>The revised indicator at restructuring was to be measured through the percent of non-complying treated water samples. The baseline at the time of restructuring (2012) in Ivano-Frankivsk was 24%. Odessa was dropped from the indicator as the investments in Odessa were limited to wastewater. The main targets of investments in Chernihiv were pumping stations and pipelines to improve efficiency of the system operation. The Chernihiv utility takes water exclusively from artesian wells and has decided to concentrate activities supported under the UIP on replacement of water pipelines. The quality of water from artesian wells in Chernihiv fully meets the national bacteriological standards. Odessa has decided to invest their own resources to improve the quality of water. The operator utility company in Odessa ('Infoksvodokanal') has rehabilitated the chlorination station at the water pumping station 'Pivdena' and used sodium hypochlorite for water disinfection.</p>			
Indicator 2:	Reduction of pollution loads discharged to the environment from wastewater treatment plants in Ivano-Frankivsk (percentage)			

Value (Quantitative or Qualitative)	35	n.a.	5%	5%
Date achieved	08/28/2007	n.a.	07/13/2012	05/18/2015
Comments (incl. % achievement)	Target fully achieved.			
Indicator 3:	Reduced discharge of untreated wastewater during dry weather conditions in Odessa (Arkadia) (cubic meters)			
Value (Quantitative or Qualitative)	137	n.a.	0	0
Date achieved	08/28/2007	n.a.	07/13/2012	08/1/2015
Comments (incl. % achievement)	Target fully achieved. The discharge of untreated wastewater during dry weather conditions has been eliminated.			
Indicator 4:	Improved energy efficiency of water and sewerage pumping systems			
Value (Quantitative or Qualitative)	0	n.a.	>15% reduction in energy use from baseline level for all listed utilities: Borispyl, Cherkassy, Chernihiv, Drohobych, Kalush, Kamyanets-Podylskiy, Kharkiv, Kolomiya, Kremenchuk, Nova-Kakhovka, Novorhad-Volynskyy, and Slovyansk	25%
Date achieved	08/28/2007	n.a.	07/13/2012	05/18/2015
Comments (incl. % achievement)	Target overachieved. All 12 utilities participating under the energy efficiency component of the project satisfactorily completed subprojects, with energy savings far exceeding the set target of energy savings of 15%. The energy efficiency achievements of individual utilities are as follows: Cherkassy - 30%, Chernihiv - 32.8%, Drohobych - 25%, Kamyanets-Podilskiy - 23%, Kolomya - 37%, Nova Kakhovka -29%, Kharkiv - 19%, Boryspil - 35%, Kalush - 27%, Kremenchuk - 35%, Novograd-Volynskii - 22%, and Slovyansk-23.6%. The average current actual of 25% is indicated above.			
Indicator 5:	Rehabilitation investments (Odessa, Chernihiv, Ivano-Frankivsk)			
Value (Quantitative or Qualitative)	Odessa: 2.1 km interceptor constructed; solid waste landfill (80 ha)	Odessa: completed main collectors, pumping stations in operation, sludge treatment facility completed.	n.a.	Odessa: achieved with exception of sludge treatment which was not included in the project. Main

	Chernihiv: Replacement pumps, water mains, WW collection pipes	Wastewater treatment plant upgrading instrumentation and controls installed and in operation.		collector completed, two pumping stations reconstructed and one new built; controls systems installed and operational; 4.6 km of pipeline built and rehabbed.
	Ivano-Frankivsk: chlorination disinfection	Chernihiv: replacement of overcapacity of pumps; 2.3 km water mains. Ivano-Frankivsk: reduce water losses to 30%; 5 km of sewer collections, 13.5 km of wastewater collection pipes		Chernihiv: overachieved (see intermediate indicators) Ivano-Frankivsk: achieved
Date achieved	08/28/2007	12/31/2012	07/13/2012	05/18/2015
Comments (incl. % achievement)	Indicator dropped at restructuring.			
Indicator 6:	Improved institutional capacity within the Ministry of Housing and Communal Services (MHCS)			
Value (Quantitative or Qualitative)	0	Capacity building training completed in the areas of quality and design, tendering, project implementation, procurement & FM, financial appraisal & management.	n.a.	Achieved
Date achieved	08/28/2007	12/31/2012	07/13/2012	05/18/2015
Comments (incl. % achievement)	Indicator dropped at restructuring. Although the indicator was dropped, capacity at the MHCS has improved considerably as a result of the project, in the areas of quality and design, tendering, project implementation, procurement & FM and financial appraisal & management.			

(b) Intermediate Outcome Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1:	Number of utilities which completed business plans and update annually performance standards			
Value (Quantitative or Qualitative)	0	n.a.	3	3
Date achieved	08/28/2007	12/31/2012	07/13/2012	05/18/2015
Comments (incl. % achievement)	Target achieved fully. Original indicator at appraisal was titled 'Business plans for utilities completed satisfactory'.			
Indicator 2:	Number of km of water and sewerage pipeline laid/replaced			
Value (Quantitative or Qualitative)	0	n.a.	41.9 Borispyl-3.5 Chernihiv-5.0 Drohobych-4.8 Kamyanets-P-6.6 Kolomiya-4.7 Nova-Kakh-0.6 Novorhad-V-5.7 Slovyansk-11.0	64.62 Odessa-4.6 Ivano-Frankivs-8.21 Chernihiv-6 Drohobych-4.8 Kalush-4.36 Kamyanets-Podilskyy-7.97 Kolomiya-7 NovaKakhovka-0.6 Novohrad-Volyns'kyi-5.72 Slovyansk-11.5 Boryspil-3.86
Date achieved	08/28/2007	12/31/2012	07/13/2012	05/18/2015
Comments (incl. % achievement)	Target overachieved. Overall target was 41.9 km, whereas 53.3 km were laid/replaced. New indicator added at restructuring.			
Indicator 3:	Water losses reduction in city water distribution network (Chernihiv)			
Value (Quantitative or Qualitative)	0	n.a.	3%	5%
Date achieved	08/28/2007	12/31/2012	07/13/2012	05/18/2015
Comments (incl. % achievement)	Target overachieved. New indicator added at restructuring.			
Indicator 4:	Number of pumping/booster stations rehabilitated			

Value (Quantitative or Qualitative)	0	n.a.	284 Borispyl - 30 Cherkassy - 12 Chernihiv - 12 Drohobych - 28 Kalush - 25 Kamyanets-P - 31 Kharkiv - 25 Kolomiya - 10 Kremenchuk - 32 Nova-Kakh - 30 Novorhad-V - 21 Slovyansk – 28	453 Odessa-3 Ivano-Frankivsk-5 Chernihiv-144 Cherkasy-12 Drohobych-48 Kalush-27 Kamyanets-Podilskyy-35 Kharkiv-25 Kolomiya-10 Kremenchuk-31 NovaKakhovka-30 Novohrad-Volyns'kyi-21 Slovyansk-31 Boryspil-31)
Date achieved	08/28/2007	12/31/2012	07/13/2012	05/18/2015
Comments (incl. % achievement)	Target overachieved. Formally revised target was 284, while 453 were achieved. New indicator added at restructuring.			
Indicator 5:	Number of utilities which completed energy efficiency investments			
Value (Quantitative or Qualitative)	0	Percentage reduction in energy consumption: 3%	Number of utilities: 12	12
Date achieved	08/28/2007	12/31/2012	07/13/2012	05/18/2015
Comments (incl. % achievement)	Target fully achieved. Original indicator at appraisal was titled ‘Energy efficiency investment measures resulting in reduction of energy consumption’ and was to be measured through percentage reduction in energy consumption.			
Indicator 6:	Number of blockages in sewers eliminated per month in Odessa			
Value (Quantitative or Qualitative)	0	n.a.	2	2
Date achieved	08/28/2007	12/31/2012	07/13/2012	05/18/2015
Comments (incl. % achievement)	Target fully achieved. Indicator added at restructuring.			
Indicator 7:	Increased capacity of staff in MHCS and utilities through yearly training programs			
Value (Quantitative or Qualitative)	0	Capacity building training completed in the areas of	n.a.	Achieved.

		quality and design, tendering, project implementation, procurement & FM, financial appraisal & management.		
Date achieved	08/28/2007	12/31/2012	07/13/2012	05/18/2015
Comments (incl. % achievement)	Indicator dropped at restructuring. See comment for PDO Indicator#6.			
Indicator 8:	Reaching financial viability measured through percentage of billing not collected (Ivano-Frankivsk, Chernihiv)			
Value (Quantitative or Qualitative)	Ivano-Frankivsk: 38% Chernihiv: 18.4%	Ivano-Frankivsk: 19% Chernihiv: 11%	n.a.	Ivano-Frankivsk: 3.3% Chernihiv: 4.1%
Date achieved	08/28/2007	12/31/2012	07/13/2012	05/18/2015
Comments (incl. % achievement)	Target overachieved. Indicator dropped at restructuring.			
Indicator 9:	Rehabilitation investments carried out satisfactory			
Value (Quantitative or Qualitative)	0	n.a.	n.a.	n.a.
Date achieved	08/28/2007	12/31/2012	07/13/2012	N/A
Comments (incl. % achievement)	Indicator dropped at restructuring and replaced with indicators 2–6 above.			
Indicator 10:	Institutional strengthening of the MHCS			
Value (Quantitative or Qualitative)	0	Capacity building training completed in the areas of quality and design, tendering, project implementation, procurement & FM, financial appraisal & management.	n.a.	Achieved.
Date achieved	08/28/2007	12/31/2012	07/13/2012	05/18/2015
Comments (incl. % achievement)	Indicator dropped at restructuring. This is a repeated indicator—see indicator 7 above.			

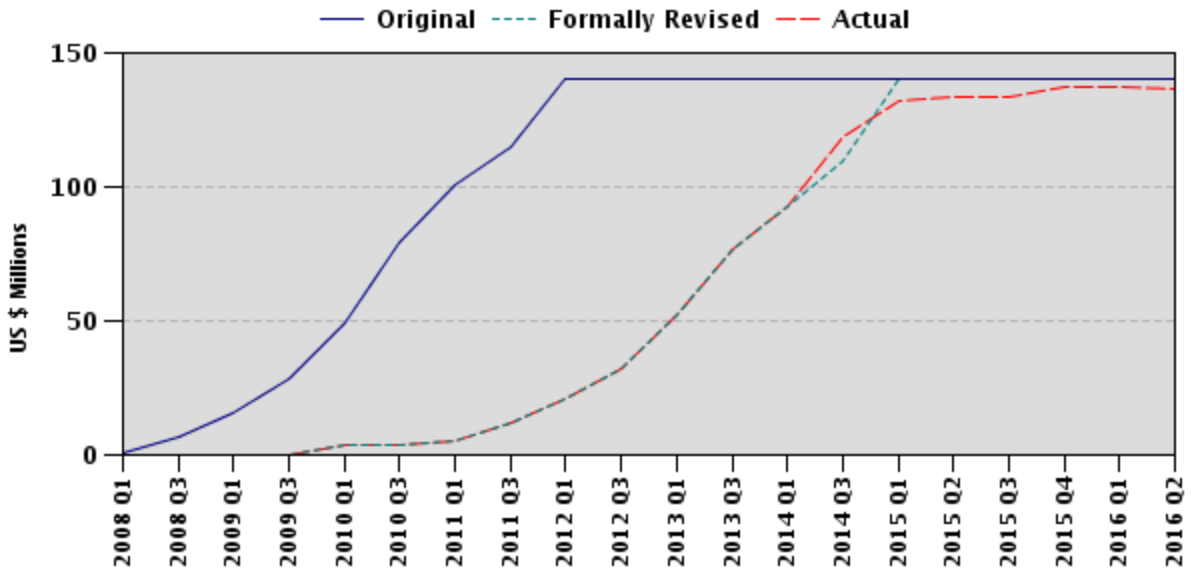
G. Ratings of Project Performance in ISRs

No.	Date ISR Archived	DO	IP	Actual Disbursements (US\$, millions)
1	03/31/2008	Unsatisfactory	Unsatisfactory	0.00
2	08/20/2008	Unsatisfactory	Unsatisfactory	0.00
3	03/25/2009	Moderately Unsatisfactory	Moderately Unsatisfactory	0.00
4	08/17/2009	Satisfactory	Satisfactory	3.43
5	03/23/2010	Satisfactory	Moderately Satisfactory	3.65
6	01/03/2011	Moderately Satisfactory	Moderately Satisfactory	9.76
7	08/17/2011	Moderately Satisfactory	Moderately Satisfactory	19.55
8	04/17/2012	Moderately Satisfactory	Satisfactory	33.19
9	10/05/2012	Moderately Satisfactory	Satisfactory	52.07
10	04/26/2013	Moderately Satisfactory	Satisfactory	77.13
11	11/24/2013	Moderately Satisfactory	Moderately Satisfactory	100.96
12	06/13/2014	Moderately Satisfactory	Moderately Satisfactory	123.96
13	11/30/2014	Moderately Satisfactory	Moderately Satisfactory	131.96
14	05/29/2015	Moderately Satisfactory	Moderately Satisfactory	134.45

H. Restructuring (if any)

Restructuring Date(s)	Board Approved PDO Change	ISR Ratings at Restructuring		Amount Disbursed at Restructuring in US\$, millions	Reason for Restructuring & Key Changes Made
		DO	IP		
07/13/2012	n.a.	MS	S	44.12	To revise the PDO and Results Matrix (RM), and extend closing date with one year to December 2013. Changes to the PDO and Results Framework were needed to reflect actual investment priorities of participating cities focusing on water and wastewater services.
10/11/2013	n.a.	MS	MS	92.86	To extend the Closing date from December 31, 2013 to September 30, 2014 to allow for completion of all subprojects in six participating cities and full achievement of the PDO.
09/24/2015	n.a.	MS	MS	137.40	To extend the Closing date from September 30, 2014 to June 30, 2015 to allow for completion of civil works in two cities affected by developments related to the conflict in Eastern Ukraine.

I. Disbursement Profile



1. Project Context, Development Objectives and Design

1.1 Context at Appraisal

1. **Country and sector background.** . After a decade of economic contraction, between 2000 and 2007, Ukraine's economy enjoyed growth during which the gross domestic product expanded by more than 50 percent and poverty rate fell sharply. Growth resulted from a combination of a highly favorable external environment, a revival of the traditional industrial base, and improved macroeconomic policies and management. The lack of investment in key municipal infrastructure which led to poor quality of services were not in line with the economic growth Ukraine was experiencing. In particular, the needs in the water supply, sanitation, and solid waste sectors required high funding for rehabilitation.

2. In 2007, about 65 percent of Ukraine's total population had access to public water supplies and about 53 percent were connected to piped wastewater collection. In cities and towns, close to 90 percent were connected to water supply and 85 percent to public sewerage. In semi-urban areas, service levels were lower—70 percent and 50 percent, respectively. In most areas, water service was intermittent, which was associated with bacteriologically unsafe drinking water quality. At the same time, industrial consumption had dropped sharply which deprived service providers of sales at high tariff levels and made financial sustainability difficult to reach. Deprived of a reliable cash flow, service providers could not maintain their infrastructure. Steadily worsening service made any tariff increase an uphill battle.

3. Due to lack of funding, the existing infrastructure for collecting and treating wastewater was poorly operated. Pollution of both national and international waterways had risen as a result. The situation was particularly serious for the Black Sea into which 80 percent of Ukraine's waterborne waste was ultimately discharged. The needs for rehabilitation were exacerbated by energy requirements for pumping water and wastewater which were up to 50 percent higher due to pump inefficiencies. The high energy intensity made Ukraine especially vulnerable to both oil and gas price increases. Consequences of the sector's chronic crisis extended well beyond the sector. Other utility companies, particularly in the energy sector, were forced to accumulate large arrears from the water supply and wastewater service providers because they found it politically difficult to cut off essential inputs to water supply and wastewater.

4. Solid waste management also required immediate attention. The quality of collection and disposal service was poor, which made the population reluctant to pay user fees. Many of the waste disposal sites in the country were filled to capacity and illegal dumping had started taking place. Authorized dumping was often not environmentally compliant either—disposal sites lacked basic environmental protection measures, such as landfill lining, leachate treatment, gas flaring, and were poorly operated and managed.

5. In December 2007, the World Bank and the Swedish International Development Agency (SIDA) signed an Administrative Agreement for a total grant amount of US\$5.19 million equivalent (of which US\$4.2 was recipient executed), administered by the Bank,

with the objective to assist the government of Ukraine to strengthen capacity of the municipal services sector (water supply and sanitation, solid waste management, district heating, and other municipal services). The SIDA's parallel cofinancing intended to support the Bank's Urban Infrastructure Project (UIP) as part of a common programmatic approach, and included (a) technical assistance (TA) for sector reform and capacity building; and (b) technical assistance for design and supervision of energy assessments and audits.

6. **Government strategy.** The Ukraine National Water Sector Strategy and Action Plan carried out under the direction of the Ministry of Housing and Communal Services (MHCS) estimated the investments required to simply reinstate the operational safety of the systems at €4 to €6 billion. The investment required to achieve international service standards over a 20-year period was estimated at €22 to €26 billion. Due to prevailing financial constraints, the first priority was to select investments that immediately benefit the local population: correcting situations where delivered water was unreliable and unsafe, and removing waste from unauthorized areas. While local service providers had undertaken the rehabilitation they could afford, the scope and pace of more significant investments depended largely on external financing. The government had therefore requested the Bank to provide long-term finance to enable service providers to start rehabilitating deteriorated systems. The project was to concentrate on the rehabilitation of assets that represented the highest priority. This was intended as a first step, followed by developing additional system capacity, tariff policy reforms, and regulation of both the quality and cost of services.

7. **Rationale for Bank involvement.** Revitalizing the water and sanitation sectors was recognized as a priority in the Bank's Country Assistance Strategy (CAS). The CAS (Report No. 26448) stated that quality (safety) and quantity (access/availability) of drinking water, deterioration of municipal infrastructure, and lack of sanitation facilities are burning issues in many regions of the country, especially in rural areas. Under Goal 7, "Ensure Environmental Sustainability" of the MDGs, target 10 sought to halve, by 2015, the proportion of people without sustainable access to safe drinking water. In addition, the CAS stated that the institutional capacity to ensure proper integration of environmental infrastructure sustainability into mainstream decision-making needed substantial strengthening.

1.2 Original Project Development Objectives (PDO) and Key Indicators

8. **Original PDO.** The project's objective is to assist participating utilities in moving toward higher quality and reliability of services; reducing the costs of service through a series of institutional improvements; and selective investments in rehabilitation and replacement of deteriorated water supply, wastewater and solid waste systems.

9. **Key outcome indicators of the project at approval:**¹ (a) improved quality of water supply and other services (Odessa, Chernihiv, Ivano-Frankivsk); (b) rehabilitation

¹ As listed in Supplemental Letter No.2 to Loan Agreement, dated May 26, 2008.

investments (Odessa, Chernihiv, Ivano-Frankivsk); and (c) improved institutional capacity within the MHCS.

1.3 Revised PDO (as approved by original approving authority) and Key Indicators, and reasons/justification

10. **Revised PDO.** The objective of the project is to improve the quality of water and wastewater services and to increase energy efficiency of selected water and sanitation utilities.

11. **Revised key outcome indicators:** (a) Improved bacteriological quality of treated drinking water in Ivano-Frankivsk; (b) reduction of pollution loads discharged to the environment from wastewater treatment plants in Ivano-Frankivsk; (c) reduced discharge of untreated wastewater during dry weather conditions in Odessa (Arkadia); and (iv) improved energy efficiency of water and sewerage pumping systems² in Borispyl, Cherkassy, Chernihiv, Drohobych, Kalush, Kamyanyets-Podyl'skiy, Kharkiv, Kolomiya, Kremenchuk, Nova-Kakhovka, Novorhad-Volynskyy, and Slovyansk.

12. The PDO was revised during level I restructuring approved by the Board on July 13, 2012 to reflect new municipal priorities. The objectives to improve reliability, reduce costs of service, and achieve institutional improvements were dropped, and the solid waste sector was excluded from the project's scope. The objective to increase energy efficiency of selected utilities was added. The justification provided included the following:

- (a) Investment priorities confirmed by the participating cities under the project have focused exclusively on water and wastewater sectors, not solid waste.
- (b) Quality of services remains a key objective both for water and wastewater services, with a specific focus on two aspects: improving the quality of drinking water produced and reducing pollution discharge.
- (c) Activities in participating cities are aimed at improving energy efficiency, which to a certain extent reduces the cost of service. However the cost of service includes other elements in addition to energy costs, which are outside the scope of the project, while investment priorities have focused on quality and efficiency aspects.

1.4 Main Beneficiaries

13. Direct beneficiaries under the project were water and wastewater utilities in Chernihiv, Ivano-Frankivsk, Odessa, and other utilities that benefited from improved managerial practices, institutional strengthening, and rehabilitation investments for improved efficiency of operations. Indirect beneficiaries are residents of the cities and towns serviced by the respective utilities. At the central level, the Ministry of Regional Development, Housing, Construction and Communal Services, and Utilities benefited from

² Pumping systems account for the bulk of overall energy consumption of the utilities.

the technical assistance provided for improved accountability and efficiency in the sector. By the project closing, it was estimated that 3.7 million people in 14 cities of which, more than 50 percent were women, benefitted from improved water and sanitation services.

1.5 Original and Revised Components

14. Four components were approved originally. At restructuring in July 2012, Component A- Institutional Strengthening, and Component B- Rehabilitation Investments, were revised to eliminate references to solid waste systems rehabilitation and to clarify the focus of the investment activities. The original and revised components are presented below.

Table 1. Original and Revised Components

Original Component Description	Revised Component Description
<p>Component A: Institutional Strengthening (US\$1.15 million IBRD and US\$4.2 million SIDA)</p> <p>1. Preparing and implementing annual business plans for water, wastewater, and solid waste utilities, including performance targets and production of updated financial statements.</p> <p>2. Further strengthening the MHCS's capacity to monitor and ensure accountability, supervision capacity and improved efficiency of the water, wastewater, and solid waste sector, through procurement and financial management training.</p> <p>3. Further strengthening the utilities' capacity to monitor and ensure accountability, supervision capacity, and improved efficiency of the water and wastewater sector, through procurement and financial management training.</p>	<p>Component A: Institutional Strengthening (US\$1.15 IBRD and US\$4.2 million SIDA)</p> <p>1. Preparing and implementing business plans for water and wastewater utilities, including performance targets and annual production of updated financial statements.</p> <p>2. Further strengthening the Ministry of Regional Development, Construction, Housing, and Communal Services' (MRDCHCS's)³ capacity to monitor and ensure accountability, supervision capacity, and improved efficiency of the water and wastewater sector, through procurement and financial management training.</p> <p>3. Further strengthening the utilities' capacity to monitor and ensure accountability, supervision capacity, and improved efficiency of the water and wastewater sector, through procurement and financial management training.</p>
<p>Component B: Rehabilitation Investments (US\$66.99 million)</p> <p>Carrying out selected rehabilitation of infrastructure works and replacement and upgrading of equipment needed for selected water, wastewater and solid waste utilities to mitigate serious health and environmental risks, all in accordance with the project's utilities business plans.</p>	<p>Component B: Rehabilitation Investments (US\$56.38)</p> <p>Mitigation of health and environmental risks and improvement of water and wastewater utilities' operational efficiency through selected infrastructure investment and upgrading of equipment, including (a) rehabilitation of a wastewater treatment plant; (b) construction of a water disinfection plant; (c) rehabilitation of networks and pumping systems; (d) installation of sewer pipes; and (e) supply of equipment and machinery for the operation and maintenance of water and sewerage systems.</p>
<p>Component C: Energy Efficiency</p>	<p>Component C: Energy Efficiency</p>

³ The MHCS was merged with the Ministry of Regional Development and the newly created ministry was the Ministry of Regional Development, Construction, Housing, and Communal Services.

<p>(US\$69.86 million)</p> <p>Address critical needs related to energy efficiency in all utilities that complete a Business Plan, have economic and technical analysis justifying the potential energy savings and investment, and are allowed to borrow by the Ministry of Finance.</p>	<p>(US\$80.12)</p> <p>No change.</p>
<p>Component D: Project Management (US\$2.0 million)</p> <p>Finances project implementation, incremental operating costs, audit, training to utilities and local governments, and stakeholder education campaign.</p>	<p>Component D: Project Management (US\$2.0)</p> <p>No change.</p>

1.6 Other Significant Changes

15. **Project restructuring.** The project was restructured three times. Level I restructuring in July 2013 revised the PDO, Components A and B, the Results Matrix (RM), and extended the closing date with one year to December 2013. Changes to the PDO, the key outcome indicators, and project components are discussed in sections 1.3 and 1.5 above. The intermediary results indicators were revised as presented in the table below. Two level II restructurings took place in November 2013 and September 2014 to extend the closing date of the project (see next section).

Table 2. Revised Intermediary Results Indicators

Original Intermediate Outcome Indicators	Revised Intermediate Outcome Indicators
1. Business plans for utilities completed satisfactory	1. Number of utilities which completed business plans and update annually performance standards.
2. Increased capacity of staff in MHCS and utilities through yearly training programs.	2. Number of km of water and sewerage pipeline laid/replaced.
3. Reaching financial viability measured through percentage of billing not collected (Ivano-Frankivsk, Chernihiv).	3. Water losses reduction in city water distribution network (Chernihiv).
4. Rehabilitation investments carried out satisfactory.	4. Number of pumping/booster stations rehabilitated.
5. Energy efficiency investment measures resulting in reduction of energy consumption.	5. Number of utilities which completed energy efficiency investments.
6. Institutional strengthening of the MHCS (repeated indicator—see indicator 2).	6. Number of blockages in sewers eliminated per month in Odessa.

16. **Closing date.** The closing date was extended three times for a cumulative duration of 2.5 years. First, the closing date was extended by one year from December 31, 2012 to December 31, 2013. At that time, there were 107 contracts under implementation and another 13 were expected to be signed, the majority of which could not be completed by the initial closing date. The closing date was further extended first to December 31, 2014, and then, to June 30, 2015. The last extension was due to implementation delays in Slovyansk, which was affected by conflict in Eastern Ukraine and Odessa, and experienced delays partially caused by the ongoing political tension in the country.

2. Key Factors Affecting Implementation and Outcomes

2.2 Project Preparation, Design and Quality at Entry

17. **Soundness of background analysis and lessons learned.** The fundamental premise against which the UIP was designed were based on extensive Bank experience globally, and in the Former Soviet Union (FSU) countries in particular, and the lessons learned from them. The approach that the UIP followed was validated and confirmed by a sector note study carried out in 2010. Namely, the UIP's design reflected the state of the sector. It recognized that quality must improve and service provision must become efficient so that costs are minimized, before customers could be faced with a proposition for tariff increase. The UIP recognized that this is a long and gradual process, and chose to focus on immediate priorities which could bring quick, much-needed results: the rehabilitation of existing assets to improve quality (versus construction of new capacity which may turn out obsolete when consumption reduces as a result of demand-management programs); and the investment in modern, energy-efficient equipment which would immediately impact cost of production. The UIP recognized that tariff increases would be easier once service has improved; and that, the regulation of quality and costs of services need to be expanded and improved.

18. **Assessment of project design.** The original PDO, planned activities, and RM, were aligned but there were shortcomings. The quality objective for water supply was well aligned with project activities and results indicators; whereas, the quality objective for sanitation and solid waste was well aligned with project activities but not linked to specific results indicators. The reliability of services objective was supported through investments to improve infrastructure, maintenance, and operational efficiency but there were no results indicators to specifically measure the reliability objective. The objective to reduce the cost of service was somewhat aligned with activities and targets; it was to be achieved through a variety of interventions including savings as a result of improved energy efficiency, operational efficiency, and reductions in water losses. Improved bill collection ratio and lower staffing costs were to be supported through the business plans in three of the participating utilities which had to be updated on annual basis. However, there were no specific activities identified at appraisal which supported the achievement of the targets in the business plans. There were intermediate level indicators, namely, the availability of business plans, the financial viability measured through the bill collection ratio, and the reduction in energy costs and water losses. Apart from the business plans, the institutional objective was to be achieved with the support of SIDA financing under the Administrative Agreement signed with the Bank. It envisaged technical assistance, study tours, capacity building, and institutional strengthening for sector institutions as well as engineering advisory services and feasibility studies. Investments in rehabilitation and replacement of deteriorated assets objective was also well aligned with intended activities and the results framework. The project had a so-called "open component" with undefined investments. Although the "open" component was a deliberate design feature intended to cause competition among utilities, it impacted the overall readiness of the project.

19. Broadly, the UIP could have made provisions and could have included a more ambitious strategic development framework underpinned by the analytics carried out under

the project. It could have related to the establishment of standards of quality of service to consumers and the application of yardstick regulation; alternative governance models for the utilities (vodokanals) such as their transformation from effectively municipal departments to publically owned joint-stock companies; or the formulation of sector investment priorities; and the drafting of sector development plans. These issues were not explicitly provisioned in the PAD because of the lack of readiness within the government at that time to embark on such a reform.

20. **Assessment of risks and mitigation.** Four risks and associated mitigation measures were identified at the project preparation stage. These included the following: (a) utilities may not be able to become financially viable; (b) working with municipalities constitutes a high risk; (c) projects in Ukraine tend to disburse slowly; and (d) rehabilitation needs may be too expensive and unaffordable for utilities. All risks that were identified did materialize during implementation. The risks were mitigated properly, with exception of (a) above. By design, the project planned to work with utilities committed to financial viability that was to be supported via the business plans. While financial viability was to be approached through improved operational efficiency and cost reductions, the cost recovery through tariff issue was not addressed in the project design. Even though the project's approach to improve service before increasing tariffs is considered appropriate as discussed in paragraph 16, there should have been mitigation measures in place in case the utilities that borrowed on commercial terms experienced difficulties repaying their subloans (the issue was addressed during implementation). In 2012, there was a significant change in the regulatory environment and a new National Commission for Regulation of Communal Services was established, that was tasked with the formulation of tariff methodology and tariff setting for communal services. This change in enabling environment allowed pursuit of a more ambitious sector agenda, which was supported through the project (technical assistance, such as tariff setting methodology analysis, and the capacity building of the regulator). New (higher) tariffs were established for water and sanitation in 2014 and investment component of the UIP subloans was incorporated in the tariff structure for participating utilities. Most of them for a short time reached operational cost recovery level, but due to the complex country context (conflict in the East, devaluation of local currency and overall critical macroeconomic situation), to date most utilities are struggling to repay their U.S. dollar denominated loans.

21. **Adequacy of government's commitment.** In the assessment of the ICR team, the government did not show strong commitment to the project during preparation as demonstrated by the long lag between Board approval and effectiveness, and by the lack of government leadership to embark on more ambitious sector reforms. The improvement in the enabling environment happened during implementation, roughly at the time of project restructuring and was underpinned by analytical studies carried out with SIDA funding. However, even though the enabling environment improved, the government was overtaken by political events in 2013 and unable to provide adequate leadership to reform the sector.

2.2 Implementation

22. **Project restructuring.** The project was restructured three times as discussed in section 1 above. One of the restructurings was level I and the other two, level II.

23. **Midterm review (MTR).** The MTR took place in July 2011, exactly two and a half years after effectiveness. At that time, the project had started to show significant implementation progress, with 80 signed contracts for about US\$55 million. The MTR recommended that the project is restructured to (a) adjust the PDO to exclude reference to solid waste since these activities were not of the same high priority as water investments prioritized by municipalities, and as a result, were excluded from the project; (b) align better the PDO and the RM; and (c) process reallocation of loan proceeds among categories and components. The MTR also recommended that the restructuring takes place only after designs for Odessa are finalized, and there is clarity on the estimated costs. (Odessa had one of the largest investments under the project and the amounts for civil works had to be established prior to the reallocation request.) The MTR recommendations were incorporated in the restructured project design.

24. **Factors that contributed to successful implementation.**

- A very important factor that contributed to successful project implementation was that SIDA allocated approximately US\$6 million grant, parallel cofinancing, which supported substantial institutional, and capacity building activities along the project.
- When the regulatory environment changed and the central Communal Services Regulatory Commission was established in 2012, the project was flexible to incorporate capacity-building activities and institutional support to the newly established the National Commission for Regulation of Communal Services, with assistance under the SIDA grant.
- The implementation arrangements where a central project implementation unit (PIU) is working closely with regional units allowed on-the-job capacity training of the regional units and utilities. At the same time, the central PIU supported directly the 12 utilities that implemented energy efficiency measures.
- The energy efficiency component and related investments in mechanical water and sanitation equipment was innovative for Ukraine. It was very well received by the utilities which showed very high interest in the project and benefited under Component C.
- A very dedicated central PIU, a PIU Manager and the Bank team toward the mid- and later periods of implementation allowed for successful project implementation, especially given the unfortunate developments within Eastern Ukraine which impacted subproject completion.

25. **Factors that gave rise to problems in implementation.**

- At the Board stage, the project's readiness was low, which was a feature of the 'open' component where utilities could define their investment projects as part of implementation. Although the 'open' component was a deliberate project design feature, the low readiness of the project delayed implementation.
- In the early stages, the project experienced a 10-month delay in signing, and a 5-month effectiveness delay as a result of which disbursement commenced 20 months later than planned. Reasons for these delays related mainly to the signing of subloan agreements due to cumbersome administrative procedures in country.
- Lack of continuity in the line ministry. During the project, seven project coordinator deputy ministers changed, impacting the speed of implementation. This fact alone demonstrates low commitment of the government toward providing continuity in project implementation;
- Capacity was uneven among utilities, and generally, there was lack of familiarity with the Bank procedures. There was a lack of continuity at the central level, which coupled with frequent changes of key PIU personal, and slowed down project processing and approvals.
- Instances of vested interests and governance issues were disclosed by the implementation ministry during the early stages of project implementation. These cases were investigated and remedies were implemented, which caused delays in the implementation of the project.
- During the late stages of implementation, the government delayed the final client contributions to the contract, jeopardizing final payments under remaining contracts. The issue was resolved albeit with the involvement of the Bank.
- The single most unfortunate factor that impacted the late phase of the project and triggered the last closing date extension relates to the conflict in the Eastern regions. Project activities in Slovyansk were directly impacted by the conflict, while implementation in Odessa was impacted indirectly.

2.3 Monitoring and Evaluation (M&E) Design, Implementation, and Utilization

26. **M&E design.** The original PDO, project activities, and RM were in general well aligned as discussed in section 2.1 above. Baseline values were determined for many but not all of the indicators, which is a typical design feature of projects with an ‘open’ component where utilities apply for funds during project implementation. Provisions on how the indicators were to be collected were made, and were included in the project agreements with individual service providers. Following the restructuring, the PDO and project activities were fully aligned with the RM.

27. **M&E implementation and utilization.** Data was collected through the life of the project based on submissions from individual utilities. Prior to restructuring, data collection was complicated by mismatch between the initial indicators set and the actual investments selected under the project. After restructuring and changes made to the results framework and indicators, the M&E improved substantially. The PIU had an M&E officer from the early stages of implementation. The quality of reporting was good. Reported data and information was utilized for management purposes of the utilities (specifically in two of the utilities that developed business plans, whereas the third utility has a private operator in place and is not utilizing the business plan as a management tool), and for reporting to the regulator.

2.4 Safeguard and Fiduciary Compliance

28. **Environmental and social safeguards.** The project triggered OP 4.01 (Environmental Assessment [EA]) and OP 7.50 (Projects on International Waterways). The project was classified as category B. EAs with site-specific Environmental Management Plans (EMPs) carried out for specific investments. Public consultations and disclosure of all relevant documents have been carried out. An Environmental Framework Policy was also prepared to guide the screening of subprojects identified during implementation. OP 7.50 was triggered because of the wastewater systems included in the project’s scope that discharge directly into the Black Sea or the Dnister River which itself discharges into the Black Sea constituting international waterways. Since the project was assessed to have a significant positive impact on reducing sewage discharges, it was subject to an exemption to the notification requirement under paragraph 07 (a) of the policy. Social safeguards policies were not triggered. Still, the project undertook a comprehensive social assessment to collect quantitative and qualitative data about local needs and priorities. Compliance with safeguards policies throughout the life of the project was satisfactory.

29. **Fiduciary compliance.** The Implementation Status and Results Reports (ISR) ratings were in the satisfactory range throughout the life of the project.

30. **Financial management (FM).** The FM risk at project appraisal was rated high before mitigation measures and substantial following agreed mitigation. The FM remained in the satisfactory range throughout the life of the project which was carried in accordance with project design and the Legal Agreement. The project was in compliance with FM covenants (timely submission of IFRs and annual audit reports, the FM department was adequately staffed). The FM systems including budgeting, accounting, internal controls,

funds flow, auditing, and reporting were also satisfactory and acceptable to the Bank's FM requirements. Annual project audits were carried out and received in a timely manner, and contained unqualified audit opinion on the project financial statements.

31. **Procurement.** The procurement risk was rated High at appraisal. Adequate mitigation measures were put in place and procurement remained in the satisfactory range throughout the life of the project. The latest ISR rated procurement as Satisfactory. Overall, the capacity of the PIU to implement procurement activities was rated Satisfactory. The various procurement reviews performed by the Bank (post reviews, mission reviews and MTR) confirm compliance with the Bank's procurement guidelines.

2.5 Post-completion Operation/Next Phase

32. The Ministry of Regional Development, Construction, Housing and Communal services has demonstrated a strong commitment to sustain achievements under the UIP with regard to improving utility performance and service delivery. To build upon the momentum of the UIP, the government has requested a follow-up project—the UIP2, which was approved by the Board in May 2014 and became effective in November 2015. The objective of the UIP2 is to improve the quality and efficiency of water, wastewater and solid waste services in selected cities. This is to be achieved through rehabilitation and reconstruction of water supply, wastewater and solid waste infrastructure in about ten cities. The project will also support improvements in sustainable service delivery. It will help improve the sector regulatory framework, strengthen the policy dialogue and support strategy development. It will also support the government's efforts in the areas of tariff increases, alternative financing options, sector governance, public awareness, benchmarking, and accountability mechanisms. The selection of cities participating in the UIP 2 as well as feasibility studies for investments were carried out under the UIP with parallel cofinancing from the SIDA grant.

3. Assessment of Outcomes

3.1 Relevance of Objectives, Design, and Implementation

33. Relevance of original and revised PDO is High. The original PDO was relevant to conditions in Ukraine at the time of appraisal and remains relevant and consistent with the current development priorities. The revised PDO is similar to the original PDO but better aligned with project activities and the RM. It excludes the solid waste sector because investments in solid waste were deemed of lower priority by participating municipalities compared to investments in water and sanitation. As such, the revised PDO focuses on water and sanitation quality and energy efficiency. The justification given at the restructuring to eliminate the reliability and reduce the costs of service objectives was that the project supports only partially the achievement of these objectives. The justification given to remove the solid waste objective was that, while important, the water and wastewater services are of higher priority for the participating municipalities. The revised PDO remains relevant to current conditions. The high relevance of both the original and the revised PDO is demonstrated by their full alignment with the Ukrainian government's strategic objectives within the National Environmental Strategy for 2020 and the Country

Partnership Strategy for Ukraine for fiscal years 2012–2016. The PDOs are aligned specifically with pillar 1 of the Country Partnership Strategy, ‘Improving public services and public finances: support to building relations with citizens’; Results Area 3, ‘Improved efficiency, quality, and governance of municipal infrastructure services’; and outcome 8. The high relevance is also demonstrated by the PDO of the follow-up UIP2 which was approved by the Board on May 22, 2014 and has very similar objectives—to improve the quality and efficiency of water and wastewater.

34. Relevance of the original design and implementation is Modest. The PDO, project activities, and the RM were in general aligned, but there were some shortcomings:

- The quality objective for water supply was well aligned with project activities and results indicators; whereas, the quality objective for sanitation and solid waste were well aligned with project activities but not linked to specific results indicators.
- The reliability of services objective was supported through investments to improve infrastructure, maintenance, and operational efficiency but there were no results indicators to specifically measure the reliability objective.
- The objective to reduce the cost of service was aligned with activities and targets but there were shortcomings; it was to be achieved through a variety of interventions including savings as a result of improved energy efficiency, operational efficiency, and reductions in water losses. Improved bill collection ratio and lower staffing costs were to be supported through the business plans in three of the participating utilities but there were no specific activities identified at appraisal to support the achievement of the business plans. The objective was linked to intermediate level indicators, namely, the availability of business plans, the financial viability measured through the bill collection ratio, reduction in energy cost and water losses.
- Institutional improvements were aligned with project activities and results indicators (through the business plans and trainings) but there were no clearly defined activities under the institutional component. On the other hand, the institutional objective was to be supported by activities funded by the SIDA, as discussed above.
- The demand-driven approach and the ‘open’ component were a deliberate design feature of the project. This was a welcome design feature that sought to introduce competition among utilities in applying for resources; however, it also contributed to the low readiness of the project investments. In addition, the ICR team could not identify clear criteria for selection of utilities to benefit under the ‘open’ component, leaving the selection to the discretion of the government.
- Investments in rehabilitation and replacement of deteriorated assets objective was also well aligned with intended activities and the results framework.

Implementation arrangements for the project were adequate and comprised a central PIU and regional management units at the participating utilities.

35. Relevance of revised design and implementation is Substantial. Following the restructuring, the PDO and the results framework were revised and fully aligned with project activities and results indicators. Changes to Component B were introduced and the solid waste sector was excluded from the scope of the project. Quality of services remained a key objective for both water and wastewater services with a specific focus on two aspects—reducing pollution discharge and improving the quality of produced drinking water. The energy efficiency component was not revised; however, specific results indicators related to this objective were added as PDO level indicators. At the time of restructuring, the institutional objective was retained at the intermediate and not at the PDO level. This was to acknowledge slow progress and lack of consensus on sector reforms within the government and slow implementation of the institutional aspects of the project and the SIDA.

36. Based on the above, the overall relevance before restructuring is Modest, and post restructuring—Substantial.

3.2 Achievements of PDO

37. Achievements against the original PDO are Modest, as discussed below:

- The objectives under the original PDO related to solid waste were not achieved since the project did not finance activities in this sector.
- The quality objective for water and wastewater was achieved in full as discussed in paragraph 39 below.
- The reliability of services improved in most utilities. Even though an indicator on reliability was not included in the RM, at the time of this ICR, the PIU reported that in nine utilities, service interruption was reduced significantly between 2007 and 2015 (on average by 47 percent) while two utilities reported a slight increase of seven percent (see annex 2).
- The project has contributed toward the objective of reducing the costs of service. A specific indicator was not included in the RM; however, it is reasonable to assume that the energy efficiency savings (25 percent on average) and reduced water losses (10 percent on average) have translated into reduction in the cost of service.
- The institutional improvements objective was achieved as demonstrated by the related metrics of the project: the availability of business plans; the success of the demand-driven (open) energy efficiency component requiring utilities to submit proposals for review and compete for funds; the extensive capacity building accomplished with funding under the SIDA grant associated with the project; improved financial management, procurement and operational

capacity at the line ministry. In addition, key sector notes were produced in social accountability in the water sector, solid waste management, district heating sector, and water tariff setting methodology.

38. The institutional improvement objective was supported also by the SIDA grant's parallel cofinancing of the project. Activities have supported the Ministry of Regional Development, Construction, Housing and Communal Services (Minregion) and three key participating utilities (Chernihiv, Ivano-Frankivsk, and Odessa) to improve their capacity in identification, preparation, implementation, and monitoring of municipal investment projects. These three utilities benefited from developing and annually updating business plans, allowing for improved planning of investment program and efficiency of service provision. With the TA provided under the project the line ministry competitively identified participating cities for investment pipeline, coordinated preparation of investment subprojects, and coordinated delivery of two large municipal investment subprojects in district heating and water and sanitation sectors (the US\$350 million UIP2 and US\$382 million District Heating Energy Efficiency Project, both approved by the Bank's Board in May 2014). All the 14 participating utilities, the Ministry of Regional Development, Construction, Housing, and Communal Services' (legal, financial, international affairs and water departments), central and the regional project management units' capacity was strengthened in FM, procurement, utility management, project management, environmental management, and strategic planning through provision of intensive training, study tours, and professional exchange of best practices. Five participating utilities' capacity was strengthened in corporate planning, utility management and maintenance, client relations, as well as FM. The project also contributed to strengthening regulatory capacity of the newly created regulatory agency. Namely, methodology for water and sanitation tariff setting was improved, and the initial plan for the integrated water information system developed. Three sector studies were delivered in solid waste management, district heating, and water sectors. These studies substantially contributed to informing decision-making and policy reforms in the district heating sector as well as to increasing utilities' commitment toward considering strengthening mechanisms for increasing social accountability of the water utilities.

39. Achievements against the revised PDO are Substantial. The revised PDO was achieved as demonstrated by the fact that all activities and target indicators, both of which are fully aligned with the PDO, have been completed and met respectively. By the project end, all activities in the 14 participating cities have been completed in full, benefitting approximately 3.7 million people, of which approximately 54 percent women; all PDO and intermediate level targets have been met in full; and the majority of them have been surpassed.

40. The quality of water and wastewater services, which was a PDO level objective, improved in all targeted cities: In Odessa, the discharge of untreated wastewater into the sea during dry conditions has been discontinued, eliminating a major environmental hazard for the city; and project interventions resulted in eliminating on average two blockages of sewers per month. In Ivano-Frankivsk, pollution loads discharged to the environment were reduced from 30 percent to 5 percent; and the quality of treated drinking water improved drastically (from 24 percent noncompliant water samples per year to full compliance). In

Chernihiv, the water supply service was extended to more customers, and the entire city population benefited from improved water quality.

41. The PDO level indicator related to energy efficiency was also achieved in full. As Ukraine is one of the most energy intensive countries in the region, increasing energy efficiency is of strategic importance for Ukraine's utilities sector. The project was the first in the Bank's portfolio as well as the first in the country in general with a dedicated energy efficiency component. The project has established a practice in achieving energy savings in water utilities and the experience is being shared across the region. The UIP2 builds upon this approach and will continue to invest in energy efficiency investments. As a result of these investments, all utilities exceeded intended targets by a significant margin (energy savings): Cherkassy - 30 percent, Chernihiv - 32.8 percent, Drogobych - 25 percent, Kamyanets-Podilskyi - 23 percent, Kolomya - 37 percent, Nova Kakhovka - 29 percent, Kharkiv - 19 percent, Chernihiv - 32 percent, Boryspil - 35 percent, Kalush - 27 percent, Kremenchuk - 35 percent, Novograd-Volynskii - 22 percent, and Slovyansk - 23.6 percent). Annual savings of 40.1 million kWh per year are estimated to amount to the wholesale market price of electricity as of Q4 2014 (US\$4.7 cent per kWh) to US\$188.470 million in savings or to US\$60.150 million using current electricity retail price as of Q4 2014 (US\$1.5 cent per kWh)

3.3 Efficiency

42. Economic analysis of the project estimated the monetary value of the project's economic benefits and calculated the internal rate of return (IRR) and net present value (NPV) of the project investments.⁴ The benefits included in the analysis are the reduction of water system losses (nonrevenue water), reduction in number of service interruptions, water quality improvements in Ivano-Frankivsk, reduction in wastewater pollution discharge in Ivano-Frankivsk and Odessa, and energy efficiency improvements.

43. Based on the assumptions, project costs and benefits discussed in the annex, the estimated economic internal rates of return of the project is 18.8 percent. The benefits-to-costs ratio of the project is 151 percent. At 12 percent assumed opportunity cost of capital, the project resulted in positive NPV of about US\$70.8 million. The result indicates that the project surpasses the benchmark for economic efficiency.

3.4 Justification of Overall Outcome Rating

44. The overall outcome rating is assessed as Moderately Satisfactory on the basis of achievement, efficiency, and relevance against the original and revised PDO as shown below.

⁴ An attempt was made to compare the ERR at appraisal with that at ICR stage, however, the files at appraisal were reported lost and the ICR team could not reconstruct the analysis done at that time to compare it with the ERR at completion.

Table 3. Overall Outcome Rating Based on Achievement, Efficiency, and Relevance

	Item	Against Original PDO	Against Revised PDO
1	Relevance	Modest	Substantial
	Relevancy of objective	High	High
	Relevancy of design	Modest	Substantial
2	Achievements	Modest	Substantial
3	Efficiency	Substantial	
4	Overall	MU	S

Table 4. Overall Weighted Outcome Rating

	Item	Against Original PDO	Against Revised PDO	Overall
1	Rating	MU	S	–
2	Rating value	3	5	–
3	Weight (% disbursed before/after PDO change)	32	68	–
4	Weighted value (line 2 x line 3)	0.96	3.4	4.4
5	Final rating (rounded)	–	–	MS

3.5 Overarching Themes, Other Outcomes, and Impacts

45. The project leveraged additional investments from the SIDA (Sweden). At the time of the ICR, the Bank, and the SIDA are discussing a large follow-up investment that will focus on environmental and social sustainability, and will finance advisory services and analytics, technical assistance, and learning exchanges in a number of sectors, including urban development, water supply and sanitation, waste, energy efficiency, and so on, related to economic and sector reforms and the green growth agenda (to benefit several countries beyond Ukraine).

46. As discussed in section 3.2, Ukraine is one of the most energy-intensive countries in the region and hence, increasing energy efficiency is of strategic importance for Ukraine's utilities sector. The project was the first in the Bank portfolio as well as the first one in the country in general with a dedicated energy efficiency component, and successfully showcased the benefits and practice of achieving energy savings in water utilities. The experience is being broadly shared within the country and across the region. The UIP2 builds upon this approach and will continue to invest in energy efficiency investments.

4. Assessment of Risk to Development Outcome

47. The risk to developmental objective is high and relates to the ability of water utilities to finance maintenance of rehabilitated or newly built assets. While the project

objectives and design did not target financial sustainability, the project assisted in developing methodology for reflecting costs of investment in the water and sanitation tariffs of participating utilities to strengthen their financial standing and capacity to cover critical investment needs. In 2013, a broad-based decision to bring water and wastewater tariffs to cost recovery level was taken by the newly created regulatory commission. The new (higher) tariffs were established for water and sanitation in 2014 and investment component of the UIP subloan was incorporated in the tariff structure for the participating utilities. Most of them reached cost recovery level, but due to the complex country context (conflict in the East and macroeconomic situation) and the devaluation of the currency, to date, most utilities are struggling to repay their US\$ denominated loans. Given the rising inflation in the country, utilities also experience difficulties in covering their operating and management costs. This situation in the short-run in most cases is solved by subsidization of the UIP subloan repayments by the respective local governments which creates additional burden on the local budgets. The issue requires solution at the national level. The Ministry of Finance has confirmed that central authorities are working with respective local governments in finding an acceptable mechanism for debt repayment.

5. Assessment of Bank and Borrower Performance

5.1 Bank Performance

(a) Bank Performance in Ensuring Quality at Entry

Rating: Moderately Unsatisfactory

48. The project was consistent with the government's development priorities and the Bank's CAS. Safeguards and fiduciary mitigation measures were appropriately designed, were consistent with the Bank's fiduciary role and ensured smooth project implementation. Lessons learned from earlier engagements in the water and sanitation sectors in the Commonwealth of Independent States and the FSU were taken into consideration when designing the project. Risks were assessed and for the most part, mitigated adequately. There were however shortcomings. The risk related to utilities not being able to repay the subloans was not identified or mitigated. The RM was aligned with the PDO and project activities, but there were no specific targets for the objective to improve the quality of sanitation and waste service. In addition, there were no specific activities identified to support the implementation of the business plans under the institutional component. The project had low readiness which was a design feature to bring competition among utilities; however, it impacted the speed of implementation.

(b) Quality of Supervision.

Rating: Moderately Satisfactory

49. The Bank's fiduciary role was satisfactory, and ensured the client is compliant with safeguards policies. It proactively identified that the solid waste part of the PDO needs to be dropped, the PDO needs to be streamlined and aligned better with the RM. It advised the client accordingly and recommended project restructuring. Given the ongoing designs in Odessa—which was one of the largest investments—it recommended that restructuring takes place after the designs are finalized. Supervision was intensive and proactive throughout implementation. However, the team could have supported the client more

effectively in improving utilities' operational efficiency and performance according to the business plans developed under the project. Toward the end of the project, despite the conflict in Eastern Ukraine, the team managed to collaborate effectively with the government and deliver in full on all targets (most targets were indeed exceeded). As a result, the project closed with a full Satisfactory rating (the last ISR reads that if Odessa delivers on its targets, the ISR will be upgraded retroactively to S).

(c) Justification of Rating for Overall Bank Performance.

Rating: Moderately Satisfactory

50. Based on the above, the overall Bank performance is rated Moderately Satisfactory.

5.2 Borrower Performance

(a) Government Performance

Rating: Moderately Unsatisfactory

51. The government's commitment to the project varied, as demonstrated by the long lag between Board approval and effectiveness; the very frequent changes in the line ministry management, and delayed processing of the due payments under the project. It should be noted, however, that the government initiated the investigation into instances of governance and corruption, and overall caused the project to be implemented in accordance with the Legal Agreement and related fiduciary and safeguards requirements. Following restructuring, the government demonstrated its commitment to emerging issues such as the establishing a new regulatory environment. Toward the latter stages of implementation, the government demonstrated, through UIP2, its continued commitment to the sector. At a lower level, municipalities and participating utilities were also committed to the project. Even conflict-affected areas, especially Slovyansk, managed to finalize all activities despite conditions due to the conflict in Eastern Ukraine.

(b) Implementing Agency or Agencies Performance.

Rating: Moderately Satisfactory

52. The project was implemented through two level PIU arrangements. Central Project Management Unit (CPMU), operating within the ministry, mostly had satisfactory performance throughout the life of the project. However, there was one incident in 2012, when the then PIU director had to be replaced due to an Department of Institutional Integrity investigation, which has since been finalized. The case was discovered and disclosed by the ministry itself. The head was replaced in the most effective manner (competitively). The CPMU ensured high quality of M&E, fiduciary, and safeguards compliance and led an efficient dialogue with sector stakeholders and three regional PIUs. It was proactive in resolving implementation issues. It led the implementation efforts of the three regional PIUs, and ensured compliance of their activities. Performance of regional PIUs in Chernihiv, Ivano-Frankivsk, and Odessa varied. In the previous two cities, regional PIUs were part of the utility and their performance was efficient and effective throughout implementation. The Odessa PMU, which was created within the municipal agency outside

the utility (which was actually concessioner to the private operator), performed relatively poorly. Its slow actions and decisions and intensive turnover of staff at the later stage were reflected in the delayed implementation and late completion of Odessa subproject.

(c) Justification of Rating for Overall Borrower Performance

Rating: Moderately Satisfactory

53. Based on above, the overall Borrower performance is rated Moderately Satisfactory.

6. Lessons Learned

54. Lessons learned under the project relate to the energy efficiency component, implementation arrangements, project readiness, loan repayment by utilities, and institutional development aspects of projects.

55. There is a significant potential for energy savings in water and sanitation networks in the FSU countries and the utilities are very interested in energy efficiency investments. The UIP exceeded by a significant margin the targeted energy efficiency values. The efficiencies in operational performance was immediately recognized by utilities and the UIP observed a significant demand from the utilities in energy efficiency investments. This is a quick and tangible improvement, which could be replicated relatively easily in other countries in the region.

56. Utility-level PIUs build capacity at the local level. Implementation arrangements for the UIP were successful and comprised a central and three regional PIUs. This arrangement allowed capacity building at the utility level in all cities—with the regional PIUs and without, but also greater ownership and commitment by participating local administration. At the same time, the central PIU ensured consistency as well as oversight that safeguards compliance and fiduciary requirements will be met and supported by participating utilities to ensure satisfactory project implementation.

57. Ensure project readiness to enable immediate start of implementation. Project readiness is critical so that implementation delays are not accumulated. All activities that could be identified in advance, should have their feasibility studies completed, and where possible—design preparation should be underway by the time projects go to Board. Subprojects within an ‘open’ component where utilities and municipalities apply and compete for funds, would also, to the extent possible, be prepared prior to Board. This could include sensitization workshops, standard templates, and processes communicated to municipalities and utilities, and advance training. Clear selection criteria should also be identified and communicated to all utilities. Given the experience of slow implementation of the portfolio in Ukraine due to overall cumbersome administrative procedures, projects need to strive to achieve high level of readiness at appraisal.

58. Loan repayment by beneficiary utilities. The risk that beneficiary utilities may not be in a position to repay their subloans should be identified during appraisal and mitigated. Financial health of utilities and their ability to repay financial obligations should be included in the selection criteria for utilities benefiting under the project.

59. Institutional development aspects of the projects need to be well defined at appraisal with specific activities in place. In the case of the UIP, business plans had to be prepared and used by utilities as managerial and planning tools. However, the project was largely silent about the specific activities that will be supported to assist utilities in developing the business plans and meeting their targets. This was recognized at the time of the UIP2 preparation and the project design reflected significant assistance toward institutional strengthening and capacity building to benefit the broader sector environment.

Annex 1. Project Costs and Financing

(a) Project Cost by Component (in US\$, millions equivalent)

Components	Appraisal Estimate (US\$, millions)	Actual/Latest Estimate (US\$, millions)	Percentage of Appraisal
Component A: Institutional Strengthening	5.35	3.5	81
Component B: Rehabilitation Investments	66.99	66.15	95
Component C: Energy Efficiency	69.86	68.13	95
Component D: Project Management	2.00	2	100
Front-end fee		0.35	
Total Financing Required	144.20	140.13*	95

*Approximately US\$2.9 million IBRD funds were cancelled in November 2015. The total amount includes both IBRD and TF financing.

(b) Financing

Source of Funds	Appraisal Estimate (US\$, millions)	Actual/Latest Estimate (US\$, millions)	Percentage of Appraisal
Borrower	0.0	0.0	0.0
IBRD	140.00	137.09	98
Swedish Trust Fund	4.20	3.04*	72

*The Swedish Trust Fund was restructured and approximately US\$1.1 million were cancelled.

Annex 2. Outputs by Component

Component A: Institutional Strengthening

1. Activities included the following:
 - Training and study tours to Sweden, Turkey, and Italy for the MRDCHCS and staff of participating utilities in FM, procurement, and operational capacity;
 - Sector studies in water supply and sanitation, solid waste management, social accountability in the water sector, and tariff regulation;
 - Preparation of sector policy notes in social accountability in the water sector, solid waste management, district heating sector, and water tariff setting methodology;
 - Three utilities benefited from developing and annually updating business plans (Odessa, Chernihiv, and Ivano-Frankivsk);
 - The capacity of five utilities—Boryspil, Chernihiv, Ivano-Frankivsk, Kolomya, Kremenchuk—was strengthened in corporate planning, utility management and maintenance, client relations, as well as FM;
 - Assistance to all utilities that benefitted under the energy efficiency (open) component to identify and prepare their investment proposals;
 - Assistance to the National Commission for Regulation of Communal Services with regard to building Water Sector Information System;
 - Assistance to the National Commission for Regulation of Communal Services with regard to the tariff setting methodology

Component B: Rehabilitation Investments

Item	Odessa	Ivano-Frankivsk	Chernihiv	Cherkasy	Drohobych	Kalush	Kamyanets-Podilskyy	Kharkiv	Kolomiya	Kremenchuk	Nova Kakhovka	Novohrad-Volyns'kyi	Sloviansk	Boryspil	Total
Number of pump stations replaced or rehabilitated	3	5	144	12	48	27	35	25	10	31	30	21	31	31	453
Water and sewerage pipes replaced or rehabilitated (km)	4.6	8.21	6	-	4.8	4.36	7.97	-	7	-	0.6	5.72	11.5	3.86	64.62
Number of purchased special/automotive equipment	2	7	29	8	4	5	4	-	-	-	-	2	-	2	63

Table 2.1.

Utility name	Indicator	2007 (or similar year at the beginning of the Project)	2015 (or similar year at project end)	Percentage change
“Cherkasyvodokanal”	Water losses, %	17.20%	17.40%	1.2%
	Number interruptions in water service per year, number	267	169	-36.7%
“Drohobychvodokanal”	Water losses, %	35.10%	29.40%	-16.2%
	Number interruptions in water service per year, number	235	204	-13.2%
“Vodoteploservis”	Water losses, %	70%	58.30%	-16.7%
	Number interruptions in water service per year, number	109	13	-88.1%
“One-time customer servise utility”, (city of Kamyanets-Podilsky)	Water losses, %	40.30%	35.40%	-12.2%
	Number interruptions in water service per year, number	2	0	-100.0%
“Kharkivvodokanal”	Water losses, %	31.9	31	-2.8%
	Number interruptions in water service per year, number	0.2996	0.3259	8.8%
“Kolomyiavodokanal”	Water losses, %	38%	28.90%	-23.9%
	Number interruptions in water service per year, number	5	1	-80.0%
Miskyy Vodokanal	Water losses, %	29.90%	29.40%	-1.7%
	Number interruptions in water service per year, number	-	-	
“Slov miskvodokanal”	Water losses, %	63.20%	61.40%	-2.8%
	Number interruptions in water service per year, number	2	1	-50.0%
“Boryspilvodokanal” (city of Boryspil)	Water losses, %	21.30%	22.30%	4.7%
	Number interruptions in water service per year, number	-	-	
“Novohrad-Volyns'kyi utility company”	Water losses, %	37.4	30	-19.8%
	Number interruptions in water service per year, number	171	135	-21%
“Kremenchukvodokanal” (city of Kremenchuk)	Water losses, %	40.4	36.86	-8.8%
	Number interruptions in water service per year, number	-	-	
“Chernihivvodokanal” (city of Chernihiv)	Water losses, %	25.50%	20.60%	-19.2%
	Number interruptions in water service per year, number	481	409	-15.0%
“Infoksvodokanal”	Water losses, %	36.5	30.3	-17.0%
	Eliminatiomn of blockages at least 2 per month			
“Ivano-Frakivskvodoeko-tehprom”	Water losses, %	33.60%	33.30%	-0.9%
	Number interruptions in water service per year, number	475	395	-16.8%

2. The quality of water and wastewater services, which was a PDO level objective, improved in all targeted cities:

- In Odessa, the discharge of untreated wastewater into the sea during dry conditions has been discontinued, averting a major environmental hazard for the city;
- In Odessa, project interventions resulted in removing, on average, two blockages of sewers per month.

- In Ivano-Frankivsk, pollution loads discharged to the environment were reduced from 30 percent to 5 percent;
- In Ivano-Frankivsk, the quality of treated drinking water improved drastically (from 24 percent noncompliant water samples per year to samples that were fully compliant).
- In Chernihiv, the water supply service was extended to more customers, who now benefit from improved water quality supplied throughout the city.

Component C: Energy Efficiency

3. Energy efficiency investments resulted in all utilities exceeding by a significant margin the target set of energy savings: Cherkassy - 30%, Chernihiv - 32.8%, Drogo bych - 25%, Kamy anets-Podilskyi - 23%, Kolomya - 37%, Nova Kakhovka -29%, Kharkiv - 19%, Chernihiv 32%, Boryspil - 35%, Kalush - 27%, Kremenchuk - 35%, Novograd-Volynskii - 22%, and Slovyansk – 23.6).

Annex 3. Economic and Financial Analysis

1. The analysis evaluates economic impact of infrastructure investments under Component B: Rehabilitation Investments and Component C: Energy Efficiency of the UIP. The activities under Component A: Institutional Strengthening are related to training and improved operational sustainability of the utilities. It is not possible to quantify the benefits of these activities with reasonable accuracy, and therefore this component is excluded from the economic analysis.

2. To avoid introducing conflict-related devaluation of project costs and benefits into this cost-benefit analysis, preconflict exchange rate is used for estimating the project costs and potential benefits in U.S. dollar terms. This exchange rate was in effect for most of the duration of project implementation.

Cost-benefit Analysis Methodology

3. The aim of the cost-benefit analysis is to evaluate the effectiveness of the project in economic value terms. The analysis compares the known costs of implementing the project to estimated economic value of the benefits that are likely to occur as a result of project implementation. By comparing the present value of cost and benefit streams and by determining the IRR of the project, a reasonable determination can be made as to whether the investments made under the project were economically justified.

4. The analysis is based on the assumption that the time period in which the benefits of the project will occur is 20 years. This assumption has a significant effect on the results. Since the project implementation costs are given, the longer the assumed time horizon of the project is, the larger the magnitude of incremental benefits will be, and, all other things being equal, the higher the IRR that will result. It can be argued that the investments implemented under the project have longer potential benefit time horizon and therefore their estimated benefit streams included in the analysis could be extended beyond 20 years. However, to remain conservative, all benefit streams of infrastructure investments are limited to 20 years for the purposes of this analysis.

5. It should be noted that, besides direct economic benefits identified and considered in this analysis, there are other potential benefits that are not factored in the cost-benefit calculation described here. For instance, improved water supply can have a significant economic benefit for various industries and encourage additional investments and economic growth. Improved wastewater system can also have environmental benefits beyond what was included and estimated in this analysis. The real benefits accruing to the population may also not be solely financial or economic in nature. Improved water and wastewater services provide significant comfort, dignity, and general welfare to the affected population. Unfortunately, these benefits cannot be included in the cost-benefit analyses because either the data needed to estimate the monetary value of these benefits is not available or because it is simply not possible to estimate the value of these benefits in monetary terms. Hence, the true value of the project may be underestimated by cost-benefit analysis, which only considers direct and quantifiable benefits.

Estimated Project Benefits

6. **Reduction of water system losses.** Component B of the project was aimed at mitigating health and environmental risks and at improving operational efficiency at various utilities. A

significant part of the investments under this component was used in improving and rehabilitating the water distribution and wastewater collection systems at beneficiary utilities. Hence, one of the most significant benefits of investments under this component is the projected monetary value of reduction in the nonrevenue water, or the physical water losses in the transmission and distribution systems that result from deteriorated physical infrastructure. The value of this benefit is calculated by comparing costs of total system losses before and after project implementation.

7. The total estimated U.S. dollar value of reduced system losses is about US\$78.8 million in present value terms. This is about 38 percent of the total estimated economic benefits of the project.

Estimated Benefits from Reduction in Water System Losses	Present Value of Benefits
Boryspil	\$ -
Cherkasy	\$ -
Chernihiv	\$ 5,501,179
Drohobych	\$ 2,657,349
IvanoFrankivsk	\$ 209,115
Kalush	\$ 5,844,841
Kamyanets	\$ 2,328,461
Kharkiv	\$ 13,979,589
Kolomiya	\$ 1,208,877
Kremenchuk	\$ 2,681,924
NovaKakhovka	\$ 60,156
Novohrad	\$ 1,265,829
Slovyansk	\$ 942,550
Odessa	\$ 42,198,046
Total	\$ 78,877,916

8. **Reduction in service interruptions.** The value of this benefit is calculated by comparing the number of service interruptions before and after project implementation and estimating the scope and cost of each interruption.

9. Estimated U.S. dollar value of this benefit, in present value terms, is about US\$3 million, or about 1.46 percent of the total estimated project benefits.

Estimated Benefits from Reduction in Water Service Interruptions	Present Value of Benefits
Boryspil	\$ -
Cherkasy	\$ 1,493,771
Chernihiv	\$ 135,866
Drohobych	\$ 48,883
IvanoFrankivsk	\$ 565,844
Kalush	\$ 410,596
Kamyanets	\$ 3,063
Kharkiv	\$ -
Kolomiya	\$ 11,199
Kremenchuk	\$ -
NovaKakhovka	\$ -
Novohrad	\$ 73,354
Slovyansk	\$ 3,775
Odessa	\$ 299,305
Total	\$ 3,045,658

10. **Water quality improvements.** Water quality improvements at Ivano-Frankivsk Utility was calculated by estimating the value of health, productivity, and time savings benefits that are likely to be enjoyed by the beneficiary population as a result of improvements in the quality of water. The estimation of this category of benefits relies on the methodology and data developed by the World Health Organization,⁵ which examines statistical and economic data of past costs from water, sanitation, and hygiene related illnesses, and estimates likely frequency and severity of potential future occurrence of water, sanitation, and hygiene related illness in the targeted population and the future economic costs of these occurrences. Also, the share of these costs that are likely to be avoided as a direct consequence of the project implementation and water supply improvements are estimated. The total estimated value of this benefit, in present value terms, is about US\$8.9 million, or about 4.3 percent of the total estimated project benefits.

11. **Reduction in wastewater pollution discharge.** The project investments resulted in reduced pollution discharge in Ivano-Frankivsk and Odessa. The economic value of this benefit was estimated by applying shadow prices of wastewater pollutant cleanup⁶ to estimated levels of these pollutants before and after the project implementation. The total value of this benefit equals about US\$74.1 million in present value terms, which is equivalent to about 36 percent of the total estimated value of project benefits.

12. **Energy efficiency improvements.** Component C of the project was designed to address critical needs related to energy efficiency at project beneficiary utilities. Therefore, the economic benefit of this component is the estimated value of savings achieved as a result of reduced

⁵ Hutton, G., and L. Haller. 2004. "Evaluation of the Costs and Benefits of Water and Sanitation Improvements at the Global Level." WHO.

⁶ Hernández-Sancho, F., M. Molinos-Senante, and R. Sala-Garrido. 2010. "Economic valuation of environmental benefits from wastewater treatment processes: An empirical approach for Spain", *Science of The Total Environment*, 408(4).

electricity consumption. Based on the energy consumption data at rehabilitated sites of each utility and the average electricity tariffs paid by the utilities, the total estimated present value of these savings is about US\$43.7 million, which is about 21 percent of the total estimated project benefits.

Estimated Benefits from Reduction in Electricity Consumption	Present Value of Benefits
Boryspil	\$ 1,342,043
Cherkasy	\$ 7,872,596
Chernihiv	\$ 13,420,522
Drohobych	\$ 7,649,946
IvanoFrankivsk	\$ 2,400,783
Kalush	\$ 4,482,855
Kamyanets	\$ 1,301,724
Kharkiv	\$ 4,407
Kolomiya	\$ 818,869
Kremenchuk	\$ 806,571
NovaKakhovka	\$ 842,847
Novohrad	\$ 1,442,561
Slovyansk	\$ 913,534
Odessa	\$ 391,409
Total	\$ 43,690,668

Cost-benefit Analysis Results

13. Based on the assumptions, project costs, and benefits discussed above, the estimated economic internal rates of return of the project is 18.8 percent. The benefits-to-costs ratio of the project is 151 percent. At 12 percent assumed opportunity cost of capital, the project resulted in positive NPV of about US\$70.8 million.

Project Costs	\$ (137,840,000)
Present Value of Project Benefits	\$ 208,656,696
Hurdle Rate (Opportunity Cost of Capital)	12.00%
Net Present Value of Project Investments	\$ 70,816,696
Project Internal Rate of Return	18.80%
Project Benefit to Costs Ratio	151.38%

14. The result indicates that the project surpasses the benchmark for economic efficiency.

Annex 4. Bank Lending and Implementation Support/Supervision Processes

(a) Task Team Members

Names	Title	Unit	Responsibility/ Specialty
Seema Manghee	Senior Water and Sanitation Specialist	ECSUW	TTL
Stephane Dahan	Senior Water and Sanitation Specialist	ECSUW	Co-TTL
Klavdiya Maksymenko	Social Development Specialist	ECSSO	
Alexei Slenzak	Senior Environmental Specialist	ECSEN	
Nadia Kislova	Team Assistant	ECCUA	
Sana Kh.H. Agha Al Nimer	Senior Water and Sanitation Specialist	ECSUW	
Irina Babich	Financial Management Specialist	ECSSO3	
Arcadie Capcelea	Senior Environmental Specialist	WBIVP	
Alison C. N. Cave	Coordinator	CRS	
Ahmet Gokce	Senior Procurement Specialist	ECSSO2	
Olena Gorokhovska	Program Assistant	ECCUA	
Delphine Alberta Hamilton	Senior Program Assistant	ECSSD	
Dmytro Kryshchenko	Investment Officer	CEUPK	
Iouri Loutsenko	Interpreter/Translator	ECCUA	
Manuel G. Marino	Lead Water and Sanitation Specialist	ECSUW	
Pekka Kalevi Salminen	Senior Energy Specialist	ECSEG	
Helen Z. Shahriari	Senior Social Scientist	AFTCS	
Irina Shmeliova	Procurement Specialist	ECSSO2	
Maria Angelica Sotomayor Araujo	Sector Leader	LCSSD	TTL
Tamara Sulukhia	Sector Leader	ECSSD	TTL
Frank Van Woerden	Senior Environmental Engineer	EASER	
Amelito Velasco	Procurement Analyst	ECSSO2	
Anna L Wielogorska	Senior Procurement Specialist	EASR1	
Kremena Ionkova	Senior Urban Development Specialist	ECSUW	ICR TTL

(b) Staff Time and Cost

Stage of Project Cycle	Staff Time and Cost (Bank Budget Only)	
	No. of Staff Weeks	US\$, thousands (Including Travel and Consultant Costs)
Lending		
FY05		238.58
FY06		299.04
FY07		115.04
FY08		29.42
Total:		682.08
Supervision/ICR		
FY08		159.57
FY09		128.70
FY10		184.86
FY11		195.34
FY12		132.92
FY13		158.17
FY14		109.86
FY15		119.93
Total:		1189.35

Annex 5. Stakeholder Workshop Report and Results (provided by the CPMU)

Urban Infrastructure Project

Lessons Learned and Experience Sharing Seminar

1. On May 14, 2014, Minregion, the Bank and the SIDA carried out public events for the purpose of summarizing the achieved results within UIP and sharing the acquired experience and knowledge during its implementation. This event was attended by over 60 representatives of the Bank, SIDA, the Ministry of Finance, the Ministry of Economy, the National Commission of the State Public Utilities Regulation, Minregion Departments, CPMU of UIP, Clean Technologies Grant Implementation Group as well as representatives of 13 utilities from 13 Ukrainian cities.
2. Although the project will be closed in a few months (September 30, 2014), the most of the planned targets and results have been already successfully achieved in selected cities:
 - Within the project, 424 pumping stations out of the initially planned 450 stations have been reconstructed;
 - 52.9 km of water and sewerage pipelines have been laid or replaced (95 percent of the initially planned volume);
 - Energy savings of the 12 utilities participating in the project are estimated as 28 percent compared to the baseline indicator and already exceeded planned indicator, which is set at 15 percent (40.1 million kW per hour per year).
3. Through the joint efforts of all partners and stakeholders, more than 3.6 million people, who represent 8 percent of the total population of Ukraine, have benefited from improved quality services, reliable water and sanitation systems, and improved environmental situation.
4. As of mid-May 2014 the amount disbursed by the project is US\$119.3 million or 85.2 percent of the total loan amount (US\$140 million).
5. To date about 98 major contracts are foreseen totaling US\$137.9 million, which includes the following:
 - (a) **Completed contracts.** 70 totaling US\$69.4 million;
 - (b) **Ongoing contracts.** 22 totaling US\$67.6 million;
 - (c) **Additional contracts.** These are planned to be signed within the next few months (their signing is possible due to the cost savings of the subproject activities) six contracts totaling US\$0.9 million in Kalush, Boryspil, Kharkiv and Ivano-Frankivsk.
6. The main activities of the project are fully completed in 8 out of the 14 participating cities of Ukraine—Cherkasy, Drogobych, Nova Kakhovka, Kolomyia, Kharkiv, Kamianets-Podilskyi, Boryspil, and Chernihiv.

Cherkasy

7. Loan amount is US\$10.88 and current disbursement rate is 99.8 percent.
8. During project implementation, 12 pumping stations of the utility have been modernized: 9 sewage pumping stations (totaling US\$2.8 million) and 3 water pumping stations (totaling US\$7.3 million). Energy savings of the utility are estimated as 6.4 million kW per hour per year, which is 30.5 percent compared to the baseline indicator.
9. Due to the cost savings of the subproject activities, the utility managed to purchase four special vehicles and equipment (excavators, diagnostic and laboratory equipment for water analysis) which allow timely detection and repair of leakages and constant monitoring of water quality.

Drohobych

10. Loan amount is US\$3.13 million and current disbursement rate is 97.3 percent.
11. During project implementation, 48 pumping stations of the utility were modernized and 4.8 km of water and sewerage pipelines were laid or replaced.
12. Energy savings of the utility are estimated as 6.0 million kW per hour per year, which is 25.8 percent compared to the baseline indicator.
13. Within the subproject, the utility has purchased mobile water leak detection laboratory, frequency converters for modernization of pressure-generating stations in water supply network, and excavators.

Nova Kakhovka

14. During project implementation, 30 pumping stations of the utility were modernized and 0.64 km of water and sewerage pipelines were laid or replaced.
15. Energy savings of the utility are estimated as 1.7 million kW per hour per year, which is 29.1 percent compared to the baseline indicator.
16. Due to the cost savings of the subproject activities, the utility has also purchased wastewater screens for sewage pump stations.

Kolomyia

17. Loan amount is US\$2.6 million and current disbursement rate is 99.8 percent.
18. During project implementation, 10 pumping stations of the utility were modernized and 7 km of water and sewerage pipelines were laid or replaced.
19. Energy savings of the utility are estimated as 1.4 million kW per hour per year, which is 37.3 percent compared to the baseline indicator.

20. Within the subproject, the utility has purchased water treatment and disinfection systems, equipment for telemetry and automation, flowmeters, video surveillance system for pressure-generating pump stations, and laboratory instruments.

Kharkiv

21. Implementation of the subproject enabled the utility to modernize 25 sewage pumping stations of the city including 1 main sewage pumping station. Energy savings of the utility are estimated as 4.9 million kW per hour per year, which is 19.4 percent compared to the baseline indicator.

22. Due to the cost savings of the subproject activities, the utility has launched the tender procedure of procurement of spare parts for sewage pump stations.

Kamianets-Podilskyi

23. Loan amount is US\$5.14 million and current disbursement rate is 99.8 percent.

24. During project implementation, 35 pumping stations of the utility were modernized and 8 km of water and sewerage pipelines were laid or replaced.

25. Energy savings of the utility are estimated as 1.5 million kW per hour per year, which is 23.8 percent compared to the baseline indicator.

26. Due to the cost savings of the subproject activities, the utility has purchased mobile sewer cleaner, backhoe loader, DN400 mm pipes and launched the tender procedure of procurement of mobile workshops for servicing of pump stations.

Chernihiv

27. During project implementation, 144 pumping stations of the utility were modernized and 6 km of pipelines were laid or replaced.

28. Energy savings of the utility are estimated as 13.2 million kW per hour per year, which is 32.8 percent compared to the baseline indicator.

29. Within the subproject, the utility has purchased telemetry system, 29 special vehicles (special vans, backhoe loaders, wheeled excavator, truck-mounted cranes, and mobile laboratories).

Boryspil

30. Loan amount is US\$4.19 million and current disbursement rate is 99.8 percent.

31. During project implementation, 31 pumping stations of the utility were modernized and 3.7 km of pipelines were laid or replaced.

32. Energy savings of the utility are estimated as 1.1 million kW per hour per year, which is 26.5 percent compared to the baseline indicator.

33. Within the subproject, the utility has purchased hydromachines for cleaning sewage pipes, backhoe loaders, and launched the tender procedure for procurement of laboratory equipment.

34. Utilities that completed project implementation in 2012–2013 confirmed that their goals were achieved.

35. All other subprojects are at the final stage of their implementation.

Summary

36. The achieved results of project implementation prompted the government to initiate two new investment projects—UIP2 and District Heating Energy Efficiency Project (UDHEEP) totaling US\$732 million.

37. Favorable IBRD credit conditions and results of project implementation encourage many other utilities to participate in similar projects and prepare investments proposals and apply to international financial institutions.

38. The experience of the preparation of UIP2 and DHEEP as well as implementation of UIP provided an opportunity to analyze the main bottlenecks faced during implementation and understand the steps for improving Ukrainian procedures by regulating the preparation of projects to be financed by international financial institutions. Based on the obtained experience and lessons learned, it is recommended to pay attention to the following:

- High readiness of subprojects and having subsidiary agreements signed prior to project effectiveness is key to efficient start-up of implementation. Lack of readiness at effectiveness (participating cities or investment subprojects not selected, procurement plans not ready, and bidding documents not prepared) resulted in a very slow start-up of the project and delayed disbursement.
- Addressing utility sustainability prior to commencement of investment subprojects, by verifying the sustainability of financing mechanisms is key to ensure that investment and operating costs will be covered.
- TA and capacity building to participating utilities prior to implementation is a key to efficient implementation. Lack of such capacity and knowledge of Bank procedures (FM, procurement) delays implementation and creates risks to achieving results.
- Continuity in implementing agencies is critical to smooth implementation. Frequent changes of senior management and slow decision making on the government side result in slowdown of implementation.
- Country level approvals should be simplified. Very slow and inefficient processing of financial documents (withdrawal applications, payments) causes implementation delays. Project implementation plans and overall duration should better reflect the reality of client administrative procedures, and be analyzed during project preparation.

- Regulatory burden and red tape results in a prolonged process for obtaining construction permits and land ownership documentation and impedes implementation. The Bank should engage with the client on sector-related processing practice issues.
- Discussion over post-Soviet vs. international standards in some cases resulted in lengthy discussions to reach a consensus on optimal design and good practices. The agenda of updating standards should be considered in sector TA where appropriate.

39. The outcome of the workshop was a deep concern for all project participants regarding loan repayment problems, caused by dramatic U.S. dollar oscillation.

40. The National Commission of the State Public Utilities Regulation confirmed their readiness to adjust tariffs for centralized water supply and wastewater for the population to economically justified levels which is a condition for repayment of loans by utilities.

Annex 6. Summary of Borrower's ICR and/or Comments on Draft ICR

1. A borrower ICR is available on file. It offers a comprehensive overview of project activities and achievements. A brief summary is presented below.

General Information and Project Background

Introduction

2. The document herein shall be the report on implementation completion and results of the UIP, which was financed out of the proceeds of the IBRD.

3. The ICR of the project was made in accordance with the established practice of such projects' ICRs, aiming to identify the main factors that affected the project implementation including technical, managerial, institutional, social, and political decisions, as well as other external contingencies that could not have been foreseen at the project's preparation and implementation stages.

4. The ICR was specifically aimed to assess the results achieved (project implementation effectiveness), compared to targets in the project documentation. The ICRt has also accomplished an assessment of the extent the project afforded the Minregion of Ukraine to strengthen its institutional capacity.

5. The ICR herein was prepared by the Minregion and the CPMU that was created under the Minregion and comprise the findings of detailed assessment of activities and results that were accomplished since the project kick-off. The ICR also contains analysis of delays in project implementation, including the bottlenecks that the project stakeholders faced in the course of project execution.

Project Milestones

6. Ukraine received a loan in the amount of US\$140 million from IBRD for the UIP. The project had been jointly prepared by the MHCS and the Bank and aimed at improvement of water supply and wastewater discharge in the towns/cities of Ukraine.

7. Eventually, in late 2010, because of administrative reform, the MHCS merged into the Ministry of Regional Development and Construction of Ukraine and became Minregion. Minregion is the successor of the MHCS.

8. The project's main goal were provision of assistance to utilities that were taking part in the project (selected utilities) to achieve their goals of providing improved-quality reliable services and reduction of operating costs through a series of institutional changes and selected investments to upgrade and replace worn down water supply and sewage systems.

9. After considerable time spent on project preparation and its approval by the Bank's Board of Directors on August 28, 2007, final official negotiations between Ukraine and the Bank took place March 27, 2008 and approved the project and all formal documents for signature.

10. On May 26, 2008, Ukraine and the IBRD signed Loan Agreement #4869-UA on the UIP.
11. On September 24, 2008, the Verkhovna Rada of Ukraine (the parliament) ratified the Loan Agreement in the Law of Ukraine ‘On Ratification of Loan Agreement (UIP) Between Ukraine and IBRD’ #592-VI of 24.09.2008.
12. On November 10, 2008, after provision of all necessary legal expertise, the Loan Agreement became effective and the project entered the stage of implementation.
13. In addition to the Bank’s Loan, the SIDA provided a grant in the amount of about SEK 35.8 million through making a Grant Agreement with regard to Trust Fund #TF091769, October 22, 2008.
14. Project implementation was originally scheduled to be completed by December 31, 2012.
15. The project was restructured thrice and the closing date was extended until June 30, 2015 with a grace period until October 31, 2015. The grant also had to go through substantial restructuring completed in 2012 and was eventually extended until June 20, 2014 with a grace period until October 20, 2014.
16. A Grant Completion Report was provided to the Bank and SIDA in October 2014.

Project’s Loan Financial Terms

17. The project was financed from two sources: Bank’s Loan of US\$140 million and SIDA Grant of SEK 35.8 million.
18. The terms of the Bank’s loan for the UIP were as follows:
 - Loan maturity: 20 years
 - Grace period: 5 years
 - Loan repayment: 15 years, starting from April 15, 2013
 - Interest rate: LIBOR for the loan’s currency plus the variable spread (interest rate established by the Bank semiannually on April 15 and October 15)
 - Ministry of Finance’s services: 0.01 percent (for provision of government guarantees)
 - Bank’s front-end fee: 0.25 percent

19. Financing provided under the categories established in Schedule 1 ‘Withdrawal of the Proceeds of the Loan’ of the Loan Agreement, are as follows:

Table 6.1. Financing under Categories Established in Schedule 1

Category	Amount of Allocated Loan Proceeds US\$
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1a. Municipal Enterprise Agency for Development Programs of Odessa	35,530,000
1b. Chernihivvodokanal Utility	14,830,000
1c. Ivano-Frankivskvodoecotechprom Utility	7,170,000
2. Part C of the project	80,120,000
3. Consultants' services and MHCS' additional operating costs	2,000,000
4. Front-end fee	350,000
Total	140,000,000

Project's Goal, Objectives, Components and Participants

Project's Goal

20. The project aimed to facilitate utilities in improvement of quality and reliability of services, reduction of operating costs through a series of institutional improvements; and water supply and sewage systems' rehabilitation.

Part A. Strengthening of Institutional Potential

21. Part A.1. Development and implementation of annual business plans for utilities in water supply and sewage discharge, specifically in the part of performance indicator targets and making updated financial reports.

22. Part A.2. Further institutional strengthening of the Minregion in monitoring and provision of accountability, supervision ability, and efficiency improvement of the water supply and sewage discharge sectors through training in procurements and financial management.

23. Part A.3. Further institutional strengthening of the utilities in monitoring and provision of accountability, supervision ability, and efficiency improvement of the water supply and sewage discharge sectors through procurements and training in asset financial management.

24. Parts A.1 and A.3 facilitate the utilities to introduce commercially orientated business practices and become financially viable, based on preparation of business plans. Throughout the period of project implementation the utilities made business plans, reflecting annual targets, particularly, such as an increase of customers, including the poor segment; water quality improvement; improvement of the billing-to-collection ratio; energy saving per cubic meter of produced water and the number of staff per 100 connections; tariffs increase to cost-recovery levels to break-even, which will ensure profitable operation; improvements in solid wastes collection; safe disposal of wastes; and removal of wild landfills. Hence, business plans shall establish benchmarks, which will afford to make trustworthy assessments of project implementation. In the course of project execution, the business plan will facilitate development of updated financial reports (income statement [profit and loss account], balance sheet, cash flow report), which will assist utilities in improvement of their asset financial management.

25. Part A.2 envisages further institutional strengthening of Minregion, which will afford better accountability and improved efficiency of the housing and communal sector at the central level. Minregion will be rendered assistance in enhancement of its technical capacity in project implementation and supervision of its execution. The part herein shall also provide due organization of training in procurement and financial management as per Minregion's needs.

26. Part A.1 and A.3 of the project cover activities at the selected utilities: Municipal Enterprise Agency for Development Programs of Odessa, the Chernihivvodokanal Utility, and Ivano-Frankivskvodoecotechprom Utility, financed out of the proceeds of the loan envisaged by Categories 1a, 1b, and 1c under Schedule 1 of the Loan Agreement.

27. Part A.2 includes Minregion's activities, financed out of the proceeds of the loan envisaged by Category 3 under Schedule 1 of the Loan Agreement.

Part B. Investments in Systems Rehabilitation

28. Implementation of activities in infrastructure rehabilitation, replacement, and equipment upgrade, required for selected utilities in water supply and sewage discharge to mitigate grave public health and environmental risks. All the aforementioned activities are subject to implementing utilities' business plans.

29. The project part herein includes investments in the selected utilities: Municipal Enterprise Agency for Development Programs of Odessa, the Chernihivvodokanal Utility, and Ivano-Frankivskvodoecotechprom Utility, financed out of the proceeds of the loan envisaged by Categories 1a, 1b, and 1c under Schedule 1 of the Loan Agreement.

Part C. Investments in Energy Saving

30. Replacement of energy-intensive equipment and the related infrastructure for more energy-saving counterparts at utilities, including works in infrastructure rehabilitation and equipment upgrade at utilities selected on a competitive basis.

31. The project part herein aimed at solution of most urgent problems in energy saving and covers investment at utilities selected on a competitive basis, in compliance with regulations as follows:

- (a) Order of the MHCS of Ukraine #206 of 07.07.2008 "On Approval of the Procedure of Competitive Selection of Investment Projects for Loans for Utility Companies to be selected for 'Development of Urban Infrastructure' Project", registered at the Ministry of Justice of Ukraine August 05, 2008 #725/15416 (as amended pursuant to Order of the MHCS #172 of June 11, 2009).
- (b) Decree of the Cabinet of Ministers of Ukraine #1088 of December 17, 2008 "On Approval of the Procedure of Utilities' Compliance with Credit Liabilities in the Framework of the 'Open Component' of the Joint with the IBRD Project 'Development of Urban Infrastructure'".

32. Financing of this part of the project effected at the cost of the proceeds of the loan, stipulated by Category 2 under Schedule 1 of the Loan Agreement, within the confines established by the Subsidiary Loan Agreement, concluded with each utility, selected on a competitive basis.

Part D. Project Management

33. D.1. Support for Minregion in implementation and coordination of the project at the central level, particularly in financial management, procurement, monitoring and assessment, public awareness campaigns, and training and related incremental costs.

34. D.2. Support of project implementation and coordination on utilities' part at the regional level, specifically financial management, procurement, monitoring and assessment, publicity campaign, training, and the related incremental costs.

35. Part D.1 will embrace the activity of Minregion and shall be financed out of the proceeds of the loan, envisaged by Category 3 pursuant to Schedule 1 of the Loan Agreement.

36. Part D.2 of the project will comprise the activity at the selected utilities: Municipal Enterprise Agency for Development Programs of Odessa, Chernihivvodokanal Utility, and Ivano-Frankivskvodoecotechprom Utility and shall be financed out of the proceeds of the loan, as set forth in Categories 1a, 1b, and 1c pursuant to Schedule 1 of the Loan Agreement.

Participants

37. The process of participants' selection for Part C of the project lasted more than two years. The first three utilities within Part B of the project (Municipal Enterprise Agency for Development Programs of Odessa, Chernihivvodokanal Utility, and Ivano-Frankivskvodoecotechprom Utility) were selected before the Loan Agreement was signed.

38. After project effectiveness, Minregion launched the process of competitive selection of utilities for implementation of Part C of the project. Any utility in the water-supply and sewage economy could apply for participation in competitive selection for receipt of loan proceeds through submission of an application and package of required documents, complete with a business plan, whose assessment was made by an independent individual expert hired by Minregion upon agreement with the Bank. After receipt of a positive conclusion from the independent expert, the document package was forwarded to the Ministry of Finance for evaluation of the utility's capacity to meet the liabilities under the project. With a positive conclusion from the Ministry of Finance, the whole package was submitted for consideration and approval to the Minregion's Expert Working Group. After the group's approval of the utility's investment project, the latter's application was sent to the Bank for the 'no objection' resolution. After the Bank's resolution, relevant agreements were concluded with the Minregion and Ministry of Finance that enabled allocation of funds to the utility and became effective after the municipal council's issuance of due guarantee to the Ministry of Finance, in compliance with the State Budget Code of Ukraine.

39. In the course of preparation of the application for competitive selection, the utilities and their municipal councils were guided by the legislation as follows:

- (a) Loan Agreement between Ukraine and IBRD #4869 of May 26, 2008, ratified by the Law of Ukraine "On Ratification of Loan Agreement (Development of Urban Infrastructure Project) Between Ukraine and the International Bank for Reconstruction and Development" #592-VI of September 24, 2008;
- (b) Decree of the Cabinet of Ministers of Ukraine #1088 of December 17, 2008 "On Approval of the Procedure of Utilities' Compliance with Credit Liabilities in the

Framework of the ‘Open Component’ of the Joint with the IBRD Project ‘Development of Urban Infrastructure’”;

- (c) Order of the MHCS of Ukraine #206 of 07.07.2008 “On Approval of the Procedure of Competitive Selection of Investment Projects for Loans for Utility Companies to be selected for ‘Development of Urban Infrastructure’ Project”, registered at the Ministry of Justice of Ukraine August 05, 2008 #725/15416 (as amended pursuant to Order of the MHCS #172 of June 11, 2009).

40. Out of over 35 municipalities that had enquired for information on participation in the competition for the receipt of funds under Part C, 24 municipalities have submitted their business plans for a total amount of US\$120 million.

41. The list of participants was finalised in February 2010 and is as follows:

Table 6.2. Final List of Participants

No.	Municipality (Town/City)	Oblast	Value US\$, thousands
1	Odessa	Odessa	45,667
2	Chernihiv	Chernihiv	22,830
3	Ivano-Frankivs’k	Ivano-Frankivs’k	10,934
4	Boryspil	Kyiv	4,197
5	Kamyanets-Podis’kyi	Khmelnys’kyi	5,143
6	Cherkasy	Cherkasy	10,880
7	Kolomiya	Ivano-Frankivs’k	2,600
8	Drohobych	Lviv	3,131
9	Kharkiv	Kharkiv	5,438
10	Kalush	Ivano-Frankivs’k	9,602
11	Kremenchuk	Poltava	6,701
12	Novohrad-Volyns’kyi	Zhytomyr	4,800
13	Slovyans’k	Donetsk	3,896
14	Nova Kakhovka	Kherson	2,030

Project Management

Administrative and Operating Procedures

42. The charge for the project’s general management, organization, and supervision, and control over project-related activities and signing documents related to project implementation was put on the deputy minister, who was appointed as the project coordinator by appropriate order of the MHCS/Minregion.

43. In discharge of the responsibilities within the project, project coordinators were authorized to be involved in project implementation activities with experts of the Legal Department, Finance Department, Water and Wastewater Department, and Department for International Relations of Minregion.

44. Pursuant to Order #343-1 of November 14, 2008, Minregion created the CPMU, which was committed with direct and day-to-day aspects of project implementation, related to

disbursements, procurement, financial management, assistance in project coordination, and general supervision.

45. The CPMU was adequately staffed and since 2010 it was reinforced with procurement, financial management, contract performance monitoring, environmental, and other specialists.

46. Pursuant to paragraph (q) of section 1.02 of the Loan Agreement, all utilities set up Regional Project Management Units (RPMUs) that were responsible for day-to-day management and implementation of the project at the regional level on behalf of the utilities, coordinating their activity with the utility, CPMU, Minregion, and Ministry of Finance.

47. The composition of the RPMUs for the whole period of project implementation included an expert in procurement and in financial management, who attended to current day-to-day project-related issues, coordinating the unit's activity with the CPMU.

Financial Control and Audit

48. Bank requirements with regard to the financial management systems established by the Minregion, utilities, and CPMU included the following:

- (a) Development, implementation, and maintenance of proper operation of a proper accounting and management system for assurance recording of business transactions within the project. There is an information system for financial management in CPMU. The Minregion and utilities intend to use the existing accounting and financial management systems.
- (b) An internal control system that ensures the financial records are reliable and complete. It also ensures proper recording and safeguarding of assets and resources, observance of appropriate management policies, and orderly and efficient business management.
- (c) Financial management reports shall be provided within 45 days of the end of each calendar quarter.
- (d) Auditing and monitoring of project activities and each implementing utility shall be performed in accordance with applicable Bank requirements (see Item 4.10 below).

49. All payments under the project were made in compliance with the provisions of the "Rules of Consideration and Approval by the MHCS of Payment Documents under the Development of Urban Infrastructure Project", adopted by Order of the MHCS #65 of 19.03.2009.

50. The CPMU developed and implemented a financial management system based on the 1C-Enterprise Version 8 application (software). Each utility has established financial management of the part of proceeds that are directly allocated to the utility.

51. According to provisions of the Loan Agreement, the Ministry of Finance of Ukraine opened and maintained 4 special accounts and 14 subaccounts for the purpose of project implementation.

52. All special accounts were multicurrency accounts, that is, the same account was used to effect payments in both U.S. dollars and Ukraine hryvnia. Prior to settlements in hryvnia, U.S. dollars had to be sold at the interbank currency exchange and the hryvnia equivalent, received in proceeds from the transaction, was credited back to the account.

53. Additional subaccounts were opened for utilities selected for Part C of the project. They were credited from Special Account D. The subaccounts were also multicurrency and operated in the same way as special accounts.

54. All the aforementioned accounts were opened at the AT 'Ukreximbank' in the name of the Ministry of Finance of Ukraine that is the owner of the accounts under the project.

55. According to requirements in the Loan Agreement, during the course of project, audit of the project and each utility was carried out annually and relevant audit reports were submitted to the Bank within six months after the end of the fiscal year the audit was made for.

56. The utilities and Minregion prepared financial statements pursuant to the National Accounting Standards, but audits were carried out pursuant to the International Standards on Auditing.

57. The project audit was organized by the Minregion and financed from the Minregion's part of the loan. The audit was performed by an auditing company acceptable to the Bank. The auditor audited the project, including the special accounts and the project reporting system pursuant to the terms of reference (TOR) approved by the Bank.

58. Audit of individual utilities were the responsibility of that utility. Audit of individual utilities was financed from the utility's own funds.

59. The utilities were audited by local licensed auditing companies, pursuant to a standard TOR provided by the Bank.

Procurement

60. All procurements of goods, works, and consultants' services for the project were carried out in accordance with the provisions of Schedule 4 'Procurements' of the Loan Agreement and detailed in the Bank's Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers dated May 2004 and Revised October 1, 2006.

61. Procurements were carried out in conformity with the procurement plans, approved by the Bank, in accordance with the established procurement methods.

62. A general announcement on procurements was published in the United Nations's bulletin 'Development Business' of April 23, 2010.

63. Most contracts concluded under the project were subject to the Bank's prior scrutiny, to the satisfaction of Schedule 4 of the Loan Agreement.

64. The Loan Agreement stipulated the following methods of procurement to be used during the course of the project:

65. Procurement of goods and works:

- (a) International Competitive Bidding
- (b) National Competitive Bidding
- (c) Shopping
- (d) Direct Contracting

66. Selection of consultants:

- (a) Quality- and Cost-Based Selection
- (b) Selection-Based on Consultants' Qualification
- (c) Single Source Selection
- (d) Selection of Individual Consultants

67. Aimed at effective procurements under the project, three types of bid and evaluation committees have been set up:

- Bid and Evaluation Committee of the Minregion was set up by Decree of the MHCS/Minregion and was responsible for the procurements in the part of the loan issued to Minregion, under the Agreement on Non-repayable Transfer of Funds, for implementation of Parts A.2 and D.1 of the project.
- Bid and Evaluation Committees of the Selected Utilities (Chernihiv, Odessa, Ivano-Frankivs'k), which were responsible for procurements under the closed component of the project. These committees were made up of utility employees and sessions were held on the premises of the respective utilities.
- Bid and Evaluation Committees of the Utilities, chosen for implementation of Part C of the project, were set up at each such utility and also included membership of representatives of the MHCS and Ministry of Finance. Their sessions were held in the premises of the MHCS.

68. Submission of bids and price propositions under the Part B were made at the addresses of the respective utilities (Chernihiv, Odessa, Ivano-Frankivs'k) and in all other instances at the address of the Minregion (CPMU).

Monitoring and Reporting

69. For the purposes of project monitoring, the following reports were prepared and submitted:

- Semiannual progress reports on project implementation that were submitted to the Bank before March 1 and September 1 of each calendar year throughout the project implementation period.
- Financial management reports in form and contents satisfactory to the Bank were submitted within 45 days after each calendar quarter.
- Reports to the satisfaction of the Regulation of the Cabinet of Ministers of Ukraine “On Initialization, Preparation, and Implementation of Projects in Economic and Social Development of Ukraine that are Supported by International Financial Organisations” #1027 of November 26, 2008.

70. Project monitoring-and-assessment main indicators were established by Additional Letter #2 to the Loan Agreement.

71. Implementing Utilities. Project Stakeholders provided monitoring of economic indicators (water loss in networks, billing-to-collection ratio, and so on); Minregion was responsible for monitoring of institutional indicators.

72. The Minregion established a practice of continuous consideration of Utilities’ reports at the Minregion Expert Working Group sessions, aimed at due monitoring and control over project implementation by the utilities.

Environmental Assessment

73. The Environmental Assessment (EA) was carried out for all selected subprojects requiring such assessment in accordance with the national EA legal framework and provisions of the project EFP. The project EFP outlines EA procedures and mitigation requirements for the subprojects which were supported by the project. It also included guidelines for different types of proposed subprojects providing analysis of potential impacts and generic mitigation and monitoring measures to be undertaken for subprojects to be supported.

74. The CPMU was responsible for environmental screening of subprojects and for ensuring that each subloan/subproject proposal includes an environmental impact assessment and, if required by national legislation, a clearance from environmental authorities. The RPMU was responsible for subprojects environmental supervision and monitoring, ensuring implementation of the EMP provisions. The subproject beneficiary was responsible for conducting the subproject’s EA as well as for carrying out and operating the subproject with due regard to applicable health, safety, and environmental standards, satisfactory to the national requirements and IBRD.

75. During project implementation the CPMU reviewed the following documents: (a) an Environmental Screening Checklist; and (b) an Environmental Impact Assessment and/or EMP (for all category B subprojects) and/or a simple EMP (for ‘low risk Category B subprojects’).

76. The EA process consisted of two major stages:

- *Preparation:* This stage included the following steps: (a) Subproject screening; (b) environmental impact assessment; (c) public consultation; (d) review and approval; (e) Environmental Impact Assessment disclosure; and (f) conditionality.
- *Implementation:* The following steps were undertaken: (a) clarifying implementing arrangements; (b) organizing and conducting monitoring and supervision; and (c) reporting.

Achieved Project Results

77. The UIP was implemented for about 8 years during 2007–2015. It was managed and coordinated with direct involvement of representatives of the Bank, SIDA, Minregion, Ministry of Finance, Ministry of Economic Development and Trade, Ministry of Justice, Ministry of Foreign Affairs, National Commission of the Energy and State Public Utilities Regulation, CPMU, selected utilities, and city councils.

78. During project implementation the following results were achieved:

- 453 pumping stations were reconstructed/constructed within the project
- 64.9 km of water and sewerage pipelines were laid/replaced

79. Energy savings of the 13 utilities participating in the project are estimated as 31.4 percent (totaling 45.5 MW/h per year) compared to the baseline indicator and exceeded planned indicator, which was set at 15 percent. This was achieved through the following:

- Purchase of 65 units of special/automotive equipment
- Provision of 24/7 water supply in Kalush, Kolomiya, Drohobych, and Slovyansk

80. Results achieved for each city are presented in table 6.3.

Table 6.3. Results Achieved for Each City

No	City	Energy Savings, %	Number of Pumping/ Booster Stations Rehabilitated	Length of Water and Sewerage Pipelines Laid/Replaced (km)	Number of Purchased Special/ Automotive Equipment
1	Cherkasy	38.5	12	n.a.	8
2	Drohobych	28.4	48	4.8	4
3	Kalush	38.1	27	4.6	5
4	Kamyanets-Podilskiy	21.0	35	8.0	4
5	Kharkiv	18.1	25	n.a.	–
6	Kolomiya	36.0	10	7.0	–
7	Nova Kakhovka	16.3	30	0.6	–
8	Slovyansk	23.6	31	11.5	–
9	Boryspil	32.5	31	3.9	2
10	Novohrad-Volynskiy	24.8	21	5.7	2
11	Kremenchuk	58.1	31	n.a.	–
12	Chernihiv	45.8	144	6.0	29

13	Odessa	n.a.	3	4.6	2
14	Ivano-Frankivsk	28.6	5	8.2	9
TOTAL		31.4	453	64.9	65

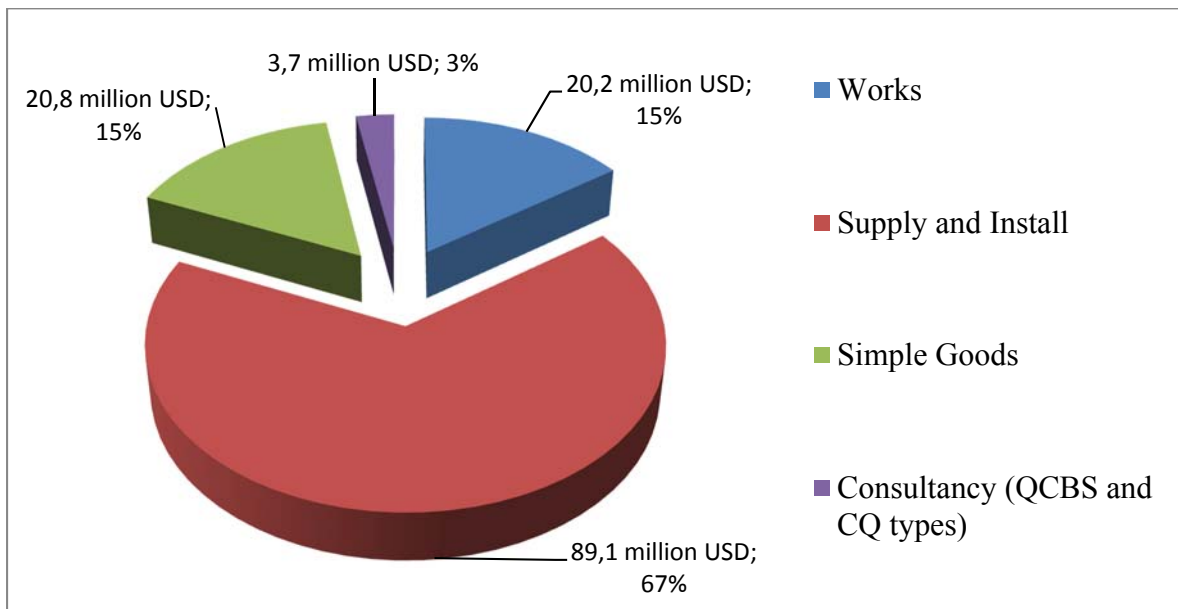
81. Through joint efforts of all partners and stakeholders more than 3.6 million people representing 8 percent of the total population of Ukraine have benefited from improved quality of services, reliable water and sanitation systems, and improvements in the environmental situation.

82. Within project implementation, 14 utilities signed and completed 130 contracts totaling US\$133.8 million.

83. The number of contracts and amount for each type of contract are as follows:

- Works type: 11, totaling US\$20.2 million;
- Supply and install type: 23, totaling US\$89.1 million;
- Simple Goods type: 84, totaling US\$20.8 million;
- Consultancy (Quality- and Cost- Based Selection and Selection- Based on Consultants' Qualification types): 12, totaling US\$3.7 million.

Figure 6.1. Breakup of Contract Types

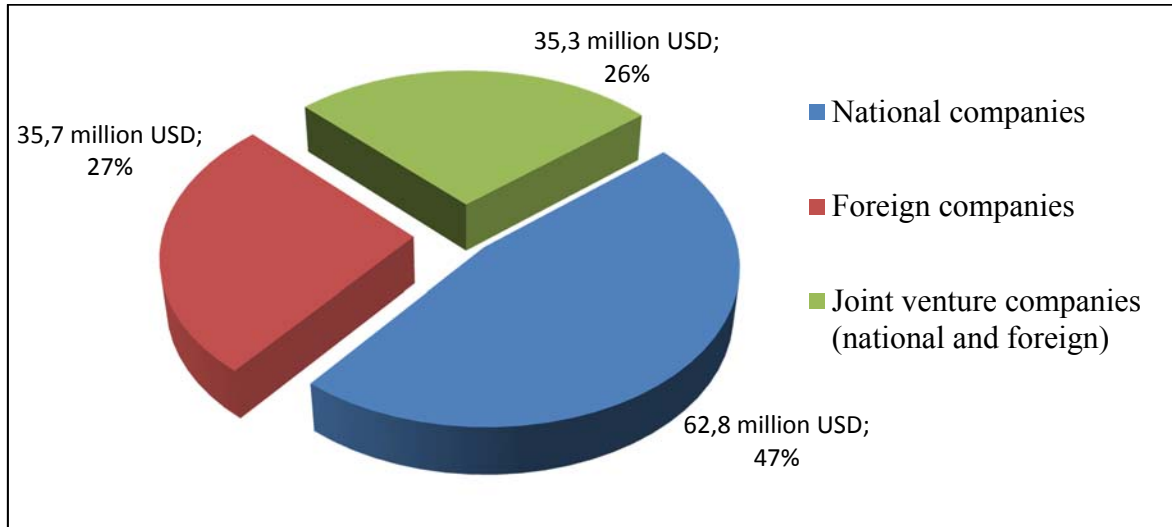


84. The number of contracts and amounts for types of contractor's capital affiliation are as follows:

- National companies: 109, totaling US\$62.8 million;
- Foreign companies: 16, totaling US\$35.7 million;

- Joint venture companies (national and foreign): 5, totaling US\$35.3 million.

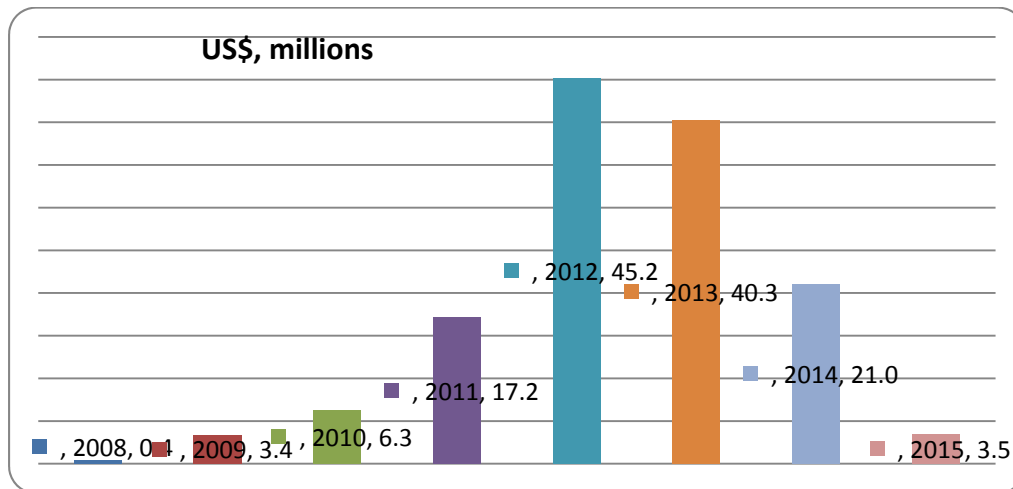
Figure 6.2. Breakup of Contracts by Contractor’s Capital Affiliation



85. During 2008–2011, disbursement was relatively low and came to 19.5 percent or US\$27.3 million. Disbursement rate rapidly rose in 2012–2013 and reached 98 percent or US\$137.3 million at project closure in October 2015 (including the disbursement deadline date).

86. Disbursement progress under the project is presented in figure 6.3.

Figure 6.3. Disbursement Progress under the UIP



87. Unallocated funds for subprojects amounted to US\$2.7 million or 2 percent of the total amount of the loan.

Annex 7. Swedish Trust Fund for the Ukraine Urban Infrastructure Project

Background

1. Administrative Agreement between SIDA and the Bank was signed in December 2007 under the Framework Agreement between Sweden and the Bank dated June 10, 2005. The total grant amount was SEK 45 million, which is US\$5.19 million equivalent, including both - Recipient Executed Trust Fund (RETF) and the Bank Executed Trust Fund (BETF), to be administered by the Bank.

2. The objective of the project was to assist the government of Ukraine to strengthen capacity of the municipal services sector (water supply and sanitation, solid waste management, district heating, and other municipal services). This was planned to be done by, among others, parallel cofinancing with the Bank-financed UIP, specifically its following components: (a) technical assistance for sector reform and capacity building and (b) technical assistance for design and supervision of energy assessments and audits.

3. As provided in the annex to the Administrative Agreement, the following specific groups of activities were envisaged under the SIDA grant:

- (a) Technical assistance for sector reform, including studies and information dissemination
- (b) International study tours
- (c) Technical assistance and capacity building for the Minregion and CPMU
- (d) Technical assistance and institutional strengthening for sector institutions
- (e) Engineering advisory services, including review of feasibility studies, and so on.

4. The grant consisted of the BETF and RETF components. According to the Administrative Agreement, for BETF the grant in amount of SEK 8,037,045.49 would finance consultant services and international study tours. For RETF, the grant in amount of SEK 35,844,217.87 was supposed to be used for associated overheads, short-term consultant fees, contractual services, extended term consultant, staff costs, travel expenses, and media and workshops.

5. Initially, capacity-building activities and consultant services for detailed designs, supervision and energy audits were supposed to be cofinanced by the government by 50 percent. In 2012, the government requested major restructuring of the grant—extension of its closing date, reallocation of grant proceeds to consultant services, and 100 percent utilization of SIDA grants. The grant was amended in March 2012, amending closing date, and implementation and disbursement schedule, as agreed between the Bank, SIDA and the government. The revised activities under the RETF component mobilized the remaining grant resources under the two major and priority activities: (a) preparation of priority investments (feasibility studies, detailed designs, and tender documents) and (b) capacity building for participating utilities. The grant agreement between the Bank and the government was amended accordingly.

6. SIDA TF was amended two more times. These were simple amendments for closing date extensions. The grant final closing date was June 20, 2014 with four months disbursement grace period, ending October 20, 2014.

7. The total disbursement reached US\$4.2 million, which is 81 percent of total TF amount. The lower than expected disbursement rate is caused by savings accumulated in the RETF component. Namely, the two tenders for two major consulting assignments ((a) preparation of priority investments (feasibility studies, detailed designs and tender documents) and (b) capacity building for participating utilities) were concluded with lower contract prices compared to the initial estimates.

Bank Executed Activities

8. The total allocation for the BETF component was SEK 8,003.055, from which around 90 percent was utilized for funding of following activities (the remainder was undisbursed):

1. **Water Sector Note (2010).** The Note was undertaken by the Bank experts, international and local consultants and completed in 2010. It was provided to the ministry for comments and approval, but due to its focus on sector regulatory issues the Note lost its relevance as the government decided to create a centralized regulatory commission. Also, lack of continuity in the ministry caused diminishing interest toward the Note. The Bank has not received any comments or acknowledgement from the ministry.
2. **Demand-side Governance in the Water Sector in Ukraine study (2012–2013).** The study has been undertaken by the Bank with its own resources from November 2011 to June 2012. However, it has not yet been disseminated, which was an important part of completing this assignment and achieving its impact on policies and institutional capacity. The SIDA grant resources were utilized for finalizing and disseminating the study. Namely, the following was financed from the SIDA grant: professional editing of the study, translating into Ukrainian language, printing/publishing in both languages, conducting workshop in Kyiv and three pilot cities, and broad dissemination. SIDA has agreed to sponsor this important work.
3. The report laid out nine short-term and long-term interventions to citizen engagement in the reform process tailored to Ukrainian context. These included both demand and supply side measures for improving accountability, which may not in and of themselves lead to higher citizen mobilization and sound water sector issues. However, they are essential to increased consumer participation for demanding better governance and improved services. The report was disseminated and published in 2013 and was highly praised as a very useful resource by utilities, local government counterparts, MinRegion, and the National Commission for Regulation of Communal Services. The printed copies of the report in English and Ukrainian were provided to SIDA in 2013.
4. **Solid Waste Management Sector Study (2013–2014):** The Bank team, composed of the Bank staff and consultants, completed the Solid Waste Management Sector

Study. The study was fully prepared under the SIDA grant in 2012–2013. The objective was to provide a preliminary assessment of the current municipal Solid Waste Management (SWM) system in Ukraine. The report identified key issues that have an impact on the SWM service delivery performance and draws attention to areas that require additional analysis. The findings of the report aim to inform government and donors of the key priority sector reforms and provide guidance in the decision making process for sequencing and implementing critical sector reforms. The report has been printed and broadly disseminated, policy dialogue established, and two workshops conducted in 2012 and 2013. The printed copies of the report in English and Ukrainian were provided to SIDA in 2014.

5. **Commentary on the Water Sector Tariff Setting Methodology (2013).** The new Regulatory Commission for Communal Services created in 2011 requested the Bank’s TA and commentary on the tariff setting methodology and benchmarking systems in the water sector. The Bank expert and the international consultant worked very closely with the commission and provided a multipage detailed commentary on the methodology. The commission team benefited from advice and experience sharing. This document is not public, it was requested by the commission to be kept as an internal document. The copy has not been provided to SIDA and is being provided with this report (to be limited to internal use only).
6. **District Heating Tariff Reform Study (2012–2013).** The ‘District Heating Tariff Reform in Ukraine: Mitigating the Impact of Tariff Increases through Targeted Cash Transfers and Energy Efficiency Measures’ work has been undertaken in 2012–2014. The study was multisectoral, with very active participation from the Bank’s energy team, social protection teams, and economists. The activity became an important platform for the policy dialogue on the district heating sector reform and allowed for effective engagement in the policy dialogue with MinRegion, Regulatory Commission, as well as other government counterparts. The work resulted in several outputs following the process of policy dialogue from 2012 to 2014, which are (a) preparation of a power point presentation outlining results of the analysis conducted by the Bank and presented to the government in February 2012. This document was not for public use, only shared with key stakeholders in the government and laid the foundation for the policy dialogue and reforms in the sector; (b) *Special Focus Note on Residential Gas and District Heating Tariffs in Ukraine*. It was publicized broadly at the press event in October 2013. Media and press broadly publicized this document; (c) *Brief Policy Note on District Heating* was prepared and sent to the government by the Bank in 2013 and in 2014 as part of eleven Sectoral Policy Notes; and (d) Short Note was prepared in 2014. These reports have not been provided to SIDA and are being provided along with this report.
7. **UIP Lessons Learned and Experience Sharing Conference (2014)** Besides all workshops conducted in the frames of above-listed sector studies, in May 2014 there was a TF-funded one-day conference organized jointly by the government and the Bank. About 70 participants from 13 project cities, MoRD, Ministry of Finance, Ministry of Economic Development and Trade, the National Commission for Regulation of Communal Services, and the SIDA participated along with the entire

Bank UIP team. Nineteen representatives from the central government and utilities, and the Bank presented their vision of lessons learned. The lessons will be useful for following Bank-financed operations in the municipal services sector as well as provided the floor for sharing best practices among utilities. The summary report on the lessons learned and utility power point presentations are being provided by the CPMU. The Bank presentation made at the conference is provide along with this report.

8. Other fragmented activities in support of capacity building, training, and sector dialogue.

Recipient Implemented Activities

9. For more details on this component of the TF please refer to the Borrowers Final Report provided as an annex to this Bank Report.

Part A: International Study Tours

10. **Study tours.** There were several study tours organized by the MinRegion within the frames of the project to strengthen professional capacity of the Ukrainian utilities representatives and the central government agencies. In 2008–09 and 2014 the following international study tours were organized: (a) Turkey on financial analysis of water supply and wastewater utilities; (b) Turin, Italy on Bank procurement practices; (c) Stockholm, Sweden on utilities governance and management, regulatory framework, ownership objectives, and environmental impacts; and (d) to Latvia and Lithuania on management of water and sanitation and solid waste utilities.

Part B: Capacity Building for the Ministry and Utilities

11. **Preparation of the TOR for capacity building and priority investment assignment.** In 2011 the MinRegion selected an international individual consultant (Swedish) who prepared subject TORs and cost estimates for the two assignments following below (#2 and #3). This assignment enabled the ministry to proceed with tenders for the subject assignments. The cost of contract was SEK 200, 000.

12. **Corporate development and capacity building of water and wastewater utilities.** Targeted utilities were Boryspil, Chernihiv, Ivano-Frankivsk, Kolomyia, and Kremenchuk. The selected consultants were Consortium of SAFEGE (Belgium) and Finnish Consulting Group Ltd. (FCG) (Finland), Swedish Institute for Public Administration International AB (SIPU) (Sweden) and Stockholm International Water Institute (SIWI) (Sweden). The contract was signed on October 2, 2013 with a total contract price of US\$129,800.00 (equivalent to approximately SEK 8.3 million). In 2013, the consultants completed needs assessment and action plans for each utility and in 2014, developed corporate development plans and business plans for the utilities. Corporate development plans focused on implementation of the long-term objectives such as stable operation of utilities systems, strengthening commercial systems and reduction of operating costs, bringing service quality to European standards and so on. The business plans included such components as current situation, strategy, evolution of services, economic targets, and financial projections investments action plan.

13. The consultant held a set of workshops and in-house trainings concerning management of information flows, pricing and tariff set-up. The trainings involved representatives of the Ministry, National Commission for Regulation of Communal Services and utilities staff aimed at the following:

- Providing information and knowledge supporting the transition to up-to-date organization and management systems at utilities
- Fostering discussion forum between participants from different cities, representatives from relevant ministries and national authorities, as well as project experts
- Assisting in in-house capacity building at the water utilities by providing a specialized training to the utility managers and specialists
- Identifying the further staff training needs for better implementation of the corporate management standards at the water utilities.

14. The training needs assessment was completed in 2014. In total, 77 participants have attended the training workshops organized in Kyiv, and in total 135 employees of water utilities were reached by the in-house training.

15. In late June, the consultant presented the Completion Report summarizing goals, achieved results and bottlenecks met during implementation of the contract.

16. **Capacity building through training.** In addition to above study tours, throughout implementation up to 2014, specialists of the ministry and representatives of the utilities also participated in the different project training session in FM and procurement under IBRD procedures in Georgia, Turkey and Russian Federation.

Part C: Engineering Advisory Services:

17. **Preparation of comprehensive water and wastewater feasibility studies and priority investment plans for Kharkiv, Kirovograd, Kramatorsk, Ternopil, Zhytomyr, and Uzhgorod. Selected Consultant Hydroplan Ingenieur-Gesellschaft mbH, Germany.** The initial contract price was US\$898,578.00 (equivalent to approximately SEK 5.9 million). These feasibility studies are for the subprojects to be financed by the new loan UIP2 (US\$350 million) approved by the Bank Board in May 2014. Following successful implementation of the main assignment, the contract was supplemented with additional scope of services, namely preparation of package of standard bidding documents and draft detailed scope of services for construction supervision of proposed subprojects in the cities of Kharkiv, Kirovohrad, Ternopil, and Zhytomyr, the contract price thereby was increased to US\$1,079,853.00 (approximately SEK 7.3 million.) Assignment was successfully completed on June 20, 2014.

18. **Feasibility study for Ivano-Frankivsk.** In 2010, Ivano-Frankivsk utility signed a contract for preparation of designs in total amount of 607 555 SEK XXX. The contract has been completed and contributed to financing of subject subproject under the UIP (this investment subcomponent was completed in 2014).

19. **Preparation of feasibility studies for district heating utilities from Dnipropetrovsk, Kirovograd, Chernihiv and Ternopil.** Consultant AF-Consult Ltd (Finland) was selected to prepare the feasibility study for SE ‘Kirovohradteplo’ (Kirovograd) and PPU ‘Chernihivska Teploelectrocentral’ of LLC-firm ‘TehNova’ (Chernihiv) (Contract No. UIP- FS-CQ-05C). The total and final contract price was US\$440,176.00. These feasibility studies were undertaken for subprojects to be financed under the Bank’s Ukraine District Heating Energy Efficiency Project (US\$382 million), approved by the Bank’s Board in May 2014. Assignment was successfully completed on June 20, 2014.

20. **Preparation of Environmental and Social Impact Assessment for the UIP2 selected utilities.** Selected consultant ‘Komunalprojekts’ JSC, Latvia, for €143 500.00 (equivalent to approximately SEK 2 million). The main task of the above-mentioned assignment was (a) preparation of Environmental and Social Management Framework for Kharkiv, Kirovograd, Kramatorsk, Ternopil, Zhytomyr, Kyiv, Kolomyia, and Donetsk; (b) preparation of Resettlement Framework (RPF) Document for same cities, and (c) Environmental and Social Management Plan (ESMP) for solid waste management subproject in Kharkiv. Activities included necessary public disclosure of all documents and standard public consultations. The assignment was successfully completed in May 2014.

Project Management

21. The Bank supervised the RETF component along with supervision and implementation support for the investment part of the UIP. Since spring 2012 the Task Team Leader was based on the field in Kyiv and this allowed for more intensive implementation support. Procurement Specialist and FM Specialist of the team were also based on the field throughout the life of the project what ensured regular fiduciary support and exchange with CPMU and the ministry. The Bank provided semiannual reports to SIDA.

22. The commitment to the TF from the government side was not even during implementation. There was lack of continuity on the government as ministers and deputy ministers changed very frequently (in 2010–2013 six times) and this created gaps in commitment to the tasks agreed under the TF. This led to substantial reduced efficiency of implementation effort. In many cases, the new management of the ministry was proposing changed scope of the TF, leading to delays in procurement and actual work. Restructuring of the TF in 2012 was undertaken in response to changed priorities of the government.

23. Most of the grant funds were committed and disbursed in 2013 and 2014 under both BETF and RETF components.

24. FM of the RETF Component was undertaken by the MinRegion, namely by the CPMU. Disbursement arrangements and FM for the UIP investment project and the SIDA grant have mostly been rated Satisfactory or Moderately Satisfactory throughout implementation. The audit reports were submitted on time, and have been found acceptable. The auditors have issued unqualified (clean) audit reports on the project and grant financial statements. The last audit report covering grant transactions completed between January 1, 2014 and October 20, 2014 (application deadline) is still to be submitted to the Bank. It is planned that by January 31, 2015 MinRegion

will complete final project and Grant Audit, and submit Audit Report of the financial statements to the Bank and SIDA, as appropriate.

25. In the Client Connection system, an amount of US\$268,124 remains undocumented as of October 2, 2014 (related to Recipient Executed component). After the remaining payments are completed and documented before October 20, 2014, the unused funds will need to be promptly refunded to the Bank.

26. There was one case of misconduct in 2013, identified by the MinRegion, leading to repeated tender and staff changes in the CPMU. The case was dealt as appropriate from administrative perspective, but caused major delay in procurement of consultants for the feasibility studies and the capacity building assignments.

Outcomes

27. Major outcomes of the project include the following:

- **Improved policies and regulation in areas of municipal services.** Policy dialogue and governments actual decisions on utility tariff increases were informed by the analytical work and TA undertaken under the SIDA grant.
- Strengthened capacity of the communal services regulatory body through the assistance under the TF. Approach to tariff setting and sector information system has advanced.
- Increased capacity of the government and utilities for planning and implementation of the priority investment projects in water, sanitation and district heating, especially with focus on the energy efficiency. As a result, UIP2 and District Heating Energy Efficiency Projects were in part prepared by using resources of SIDA grant.
- Increased capacity in the MinRegion to prepare and manage investment projects. The CPMU has a capacity to expand and implement greater volume of activities efficiently.

Annex 8. List of Supporting Documents

Ukraine Country Partnership Strategy (Report No. 26448).

World Bank (2000 Project Appraisal Document on a proposed loan in the amount of US\$140 million to Ukraine for an Urban Infrastructure Project. Report No. 33724-UA.

Loan Agreement, Ukraine Urban Infrastructure Project. LN 4869-UA.

Aide Memoires and Management Letters.

ISRs, Ukraine Urban Infrastructure Project.

PROJECT MAP

